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LECTURES
ON THE
DISEASES OF THE BONES AND THE JOINTS.

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LECTURE I.

General structure of bone. Disease of the periosteum. Inflammation of the bone itself. Its suppuration. Pus in the diploe. Termination of the inflammation by ulceration of the bone and absorption. Ulceration of the soft parts around. The peculiarities of carious ulcers. Termination of the inflammation in necrosis. Exfoliation after death of bone. Sequestrum. Varieties in necrosis.

It is scarcely necessary that I should say much by way of preface on the structure of bones, the diseases of which we are now about to consider. For instance, you already know that they are pretty freely supplied with blood, and that from various sources; for, besides the larger nutritious arteries, which enter at distinct canals, there are innumerable small vessels which, passing from the periosteum, enter minute foramina, that are observable on the surface of the bone, and are ultimately distributed to the osseous tissue itself, following its reticulated structure, and forming free anastomoses one with another.

Bone is also supplied with nerves; and hence, although in the healthy state its sensibility may appear doubtful, yet, when exposed by accident or disease, and particularly when the seat of inflammatory action, the osseous tissue is observed to be extremely sensitive. Granulations, also, which spring from bone, are often very tender to the touch, and extreme pain is experienced when pressure is made on nodes of the tibia, &c.

The reticulated and cellular texture, even of the more dense parts, is readily seen in young bones, and the earthy matter may be distinguished as it is gradually deposited, in the form of laminæ and spiculæ, inclosing irregular spaces. In this early state, also, bones appear to be invested by a kind of cortex, which furnishes a large part of the osseous deposit. In adults the same cellular texture may be seen by maceration in acid; and this is likewise remarkably shown in some specimens of disease, where the most delicate and spongy tissue is sometimes found at particular parts, as in the heads of long bones. Scarpa has examined the structure of bone very minutely, both *synthetically* and *analytically*, as he expresses it, and has beautifully delineated the facts which I have just mentioned.

Bones, as I have said, are covered with a vascular membrane called *periosteum*, in which the vessels ramify before entering the texture of the bone, and this membrane is in most cases affected before the bones themselves become diseased.

The tendency to *periostitis* varies much in different individuals. Some are peculiarly liable to it, so that the slightest sprain or bruise will be sufficient to cause it, and will serve as the commencement of serious, nay, even fatal mischief. The long continued exhibition of mercury will predispose to this disease, and exposure to cold whilst a patient is undergoing a course of that medicine is a frequent cause of periostitis.

Sometimes patients suffer from a kind of general periostitis,—pains in the limbs, with swelling and tenderness over the bones; pain in the chest, increased on taking a full inspiration, and inability to turn in bed without producing intense agony. This state may, perhaps, last for some time, and then a slight cause is sufficient to induce further action, and abscess, with, perhaps, necrosis of some particular bone, is the consequence.

In cases of inflammation of the periosteum we observe that membrane, in the first place, to become thickened, opake, and soft, whilst, at the same time, it appears to be more highly vascular than in the natural state. Ultimately, however, its connections become loosened and the periosteum is separated, to a greater or less extent, from the subjacent

bone. This may be seen in cases of accidental injury in the human subject, or in the bones of the lower animals which have been purposely injured with the view of exciting inflammatory action in the periosteum and bone. It is all attended with very great pain and tenderness, and with swelling and increased heat; the pain, also, is remarkably aggravated during the night; the health, after a time, suffers, and the patient may even sink under the constitutional irritation.

But this cannot obtain long without the bone becoming secondarily affected, and hence osseous tissue suffers inflammation from causes which are similar to those already mentioned as inducing periostitis. The bone then becomes enlarged and softened, and, owing to the increased determination of blood to it through the vessels from the periosteum, formerly described, it appears in the macerated state pierced with numerous foramina of considerable size. Round these quantities of new osseous matter are deposited, and thus the circumference of the inflamed portion of bone becomes much increased. According to some, numerous new vessels are formed, and according to others, vessels, which before only carried serous fluid, are now made to convey red blood. (We know, by means of the microscope, that vessels which allow one or two rows of blood-globules to pass through them do not appear coloured to the naked eye, and these, by becoming dilated, and allowing more globules to pass a-breast, may appear like fresh vessels carrying red blood.) At all events the foramina and canals in the bone thus inflamed undergo an enlargement, and the bone is rendered in the first instance more than usually spongy. In time, however, as more osseous matter is deposited, this becomes less apparent, and ultimately the relative quantity is much increased; the medullary cavity itself is obliterated; the bone is rendered massive and heavy, and gives, when sawn across, an ivory-like section.

Now, inflammation of bone, as of other tissues, may have various terminations. Thus, it may terminate in *suppuration* of the surface of the bone. For example, a man receives a blow on the cranium; after a time considerable swelling, pain, and tenderness come on; in spite of the local abstraction of blood and other necessary measures, this continues, and the man has shiverings and considerable feverishness, and it is found that matter has formed between the pericranium and the bone, causing, at the time, separation of the investing membrane from the cranium, and afterwards exfoliation of the outer table of the skull, at least; perhaps more serious mischief.

The same sort of thing may occur in the shaft of a long bone, suppuration taking place from a portion of its surface.

Again, the mischief may be more deeply seated, and suppuration, instead of taking place on the surface of the cranium, may proceed between the two tables, and matter may collect in the diploe. A case of this kind is related in Mr. John Bell's "Surgery," where it was thought that matter had collected between the dura mater and the skull, and where a trephine was accordingly applied, with the intention of removing a piece of the skull. However, as soon as the instrument made its way through the outer table, free exit was given to the collection of pus, and the patient was relieved. The same thing occurs, again, in some cases, between the two plates of the sternum; and what is termed "spina ventosa" of the jaw, is nothing more than a collection of matter taking place in this manner between the two tables of the lower jaw, and so separating them as to enclose a large cavity.

Pus may also collect in the shafts or heads of long bones, and in these cases there will be severe constitutional symptoms, as well as the local ones already described. Such collections may attain a considerable size, and, after bursting into the cellular tissue of the limb, may be discharged by an incision made through the skin, simply; or, in other cases, the abscess may itself be opened by more active interference, the skin being reflected and an opening being made into the proper part of the bone by means of a trephine. Sometimes, however, the abscess will attain a large size, and the cavity will then remain for a long time continuing to discharge pus. Nay, cases occur in which a plug may be worn in the opening and the matter may be allowed to escape once or twice a-day, according to the convenience of the patient. Sometimes the abscess, instead of opening into the cellular tissue around the bone, is discharged by a small perforation (like a gimblet-hole) into the neighbouring joint (that is, when the abscess is in the head of a bone, as in the head of the tibia, for example), and then the case becomes much more serious. The smallest quantity of discharge thus getting into the cavity of the joint, causes, generally, a remarkable amount of diseased action; inflammation of the synovial membrane; ulceration of the cartilage; and, ultimately, destruction of the whole apparatus.

In many cases these collections are attended with death of a portion of the interior shell. In such instances the discharge of matter will not, of course, cease until the dead portion is got rid of; and, even then, sometimes, a troublesome unhealthy suppuration continues, which it is extremely difficult to stop. As another termination of inflammation of bone we may mention

Ulceration of Bone.—We sometimes find the surface of bones ulcerated, but this is a much less common disease than that which we have just noticed. Not unfrequently the ulceration is of an unhealthy character;

though sometimes the case is a perfectly simple one, the bone first softening and then becoming gradually absorbed from a particular point, pus being at the same time secreted. Other instances of simple ulceration of bone are met with in severe cases of disease of joints. Here, after inflammation of the synovial membrane and abscess of the joint, you will find ulceration of the cartilage take place; and when this is entirely destroyed at one or more points over the heads of the bones, the osseous tissue itself becomes, secondarily, the seat of simple ulceration.

Lastly, we find ulcerative absorption of bone frequently taking place as a consequence of the collection of pus in a bone, which, as we have seen, may even cause the death of a portion of the internal shell. In these cases, then, the ulceration is *simple*, but there are others in which it is of a very obstinate nature, and in which there is little vascular action taking place in the neighbourhood, and apparently no effort of nature to commence the reparative process.

In some such cases, also, you will find ulcers of the soft parts very foul in their appearance, and intractable in their nature,—something like the kind of ulceration which goes on in parts loaded with adipose tissue. This occurs in persons of a bad habit of body, who have perhaps rendered an indifferent constitution worse by irregular and intemperate living. Such persons have an unhealthy cachectic appearance, and evince in all their functions a general want of action.

Perhaps, from a slight cause, some disease commences in the periosteum or bone; the skin over it is hard, swollen, and dark-coloured. It gives way at one point, and an unhealthy suppuration is established. Ulceration goes on for some time, and then, perhaps, flabby, large granulations begin to arise. These, however, speedily disappear on some constitutional derangement, and ulceration again proceeds; the skin is undermined, the sore looks sloughy, and at the bottom the bone is discovered, bare and rough, giving a grating sensation when examined by the probe, and having a grey ashy colour, very different from simple ulceration, and from the dead white colour which necrosed bone presents. This, then, is what is called a *carious ulcer*; it differs from simple ulceration of bone principally in the slow and intractable nature of the disease, and the want of anything like healthy action even under the most favourable circumstances.

In the recent state these carious ulcers are sometimes partially filled up by an unorganised lardaceous or tuberculous matter which is deposited in the cellular texture of the bones before more active disease commences.

The presence of this *lardaceous deposit* may at first cause very little inconvenience. There may be a little pain in the part and some difficulty of motion; but there are no acute symptoms such as those which attend inflammation of the bone. This often occurs in children of scrofulous habits, and generally in the heads of the larger bones. When the patients get in better health, the deposit may be absorbed, and no further evil consequences may arise; but in other cases it may cause carious ulceration of the surrounding bone, and becoming itself softened, it mixes with the unhealthy pus, which is formed, and thus gives rise to large collections of matter. A process of this kind is often the foundation of that disease of the vertebræ which is attended with a sharp curvature, and has been called "Pott's disease."

Caries is often attended with partial necrosis, and here, although a free opening be made, and the dead portion of bone removed, yet the ulcer which is left does not show any disposition to throw out healthy granulations. On the contrary, the discharge continues of a very fetid and unhealthy character, often causing excoriations in the parts of the skin with which it comes in contact. Owing, also, to the evolution of sulphuretted hydrogen in the sore, the end of the probe is blackened whenever it is introduced for the purposes of examination. This state of things obtains until the health of the patient begins to sink from the continued discharge, and he becomes ultimately worn out unless the source of constitutional irritation is removed by amputation. Sometimes the discharge may gradually stop, and the opening leading to the carious bone may close up, but that is seldom lasting. It is generally fallacious; the cicatrix is elevated and soft; it feels boggy and unsound; and although it may remain for a time in that state, a slight cause will bring back the old symptoms, when the part breaks, and is again as bad as ever.

If, however, the carious portions of bone be thoroughly removed, there may, in favourable cases, be an attempt at reparation. New spiculæ and nodules of osseous matter are thrown out, and these, adhering to the cicatrix, cause a contraction and indentation of the part, which becomes sound and healthy.

Necrosis.—Another termination of inflammation of bone is death of a portion of the osseous tissue. This may arise in persons of the best health, from local injury; as where, from direct violence, the soft parts are stripped off, the bone itself denuded, and perhaps much bruised. It may also occur in bad cases of fracture, particularly when sufficient care has not been taken to place the broken ends in nice apposition, and to prevent all motion of the parts when once they have been so adjusted.

Of this many instances might be adduced. In compound fractures the exfoliation of the

broken ends which have, perhaps, been rudely brought in contact with foreign substances, is constantly observed. We see frequently, also, where a portion of protruded bone has been necessarily sawn off in order to facilitate the reduction of the fracture, the sawn end, instead of furnishing new matter, becomes white, and a greater or less portion is separated. This is almost the uniform result of the application of the saw in compound fracture. Sometimes, again, large portions of the shaft become necrosed in consequence of the inflammation of the periosteum and bone running high; in consequence of greater action, arising from one cause or other, as the bad adaptation of the broken ends, or their more frequent motion on each other, than is required for their consolidation.

Case I.—A young man presented himself at this hospital some short time after it was opened for the reception of patients, labouring under abscess of the back of the thigh. This was opened, and a portion of the femur was found denuded and loose. The sequestrum was extracted after the removal by the trephine and cutting forceps, of part of the new shell. The limb, the thigh part of it, was remarked to be unusually short. It appears that this patient when very young had sustained a severe fracture of the thigh, that he had suffered much from pain and swelling of the limb subsequently. He had been a patient under my care in the Edinburgh Hospital some years previously, when a very large and bony sequestrum had been extracted. The shortening of the limb had not been then remarked, and possibly this had arisen not entirely from improper adjustment of the fractured ends, but in some measure also from arrest of development of the femur.

Case II.—I had lately occasion to treat a very extensive necrosis of the fibula, of thirteen years standing, the result of fracture of this bone, with displacement of the foot. The reduction of the partial dislocation had been imperfectly accomplished; violent inflammation of the outside of the limb, followed by abscess, was the result. The discharge continued to flow profusely, and was by and by found to depend on the presence of dead bone. There were openings near the ankle, and others nearer the head of the bone. One large bony sequestrum was found to extend almost from one end to the other. It was removed with much difficulty, and not before much of the substituted bone was taken away. The sequestrum was then broken in two by the cutting forceps, and extracted in two portions, one upwards, the other downwards.

Bone dies in consequence of either the external or the internal periosteum being injured or stripped off; but this is by no means to be looked on as a necessary consequence of such injury. Even where the periosteum is completely torn off, and the bone itself is subjected to considerable bruising, the patient may go on well, and ultimately recover without any exfoliation. This is often seen in injuries of the head. A patient is brought to you with the scalp reflected from the skull, which in part is exposed by the stripping off of the pericranium. You replace the torn integuments as carefully as possible, and probably they do not completely cover the skull, so that you still see the bare bone. But although at first you do not know whether or not exfoliation will take place, you will be able to discover it in a few days. If the vitality of the bone is completely destroyed, the part so injured soon assumes a peculiar appearance; it becomes dry and smooth, and of a dead white colour, like bone which has been cleanly macerated, and when scratched it does not bleed. But if matters have not gone quite so far, and the bone is inclined to recover, it becomes brown, and soon gives out granulations from different points of its surface.

When a portion of the surface of a bone dies, the living bone in immediate contact with it is gradually eaten away by the process of absorption, and the necrosed piece is thrown off in the form of a thin shell. This is said to be an *exfoliation* of bone, and is a simple process generally unattended with danger.

When the internal periosteum, or that membrane which lines the medullary cavity, is injured sufficiently, a portion of bone next to the injured part dies, as in the case of the true periosteum. (Such a process has been caused in this bone of one of the lower animals by boring a hole in the shaft, and destroying a part of the medullary membrane by means of a bent wire.) The bone in immediate connection with the injured membrane, being thus deprived of its chief source of nourishment, has died, and what is called a *sequestrum*, or dead piece of bone in the cavity of the live bone, has been formed. Such a shell of bone is got rid of with much greater difficulty than the external shell which I have just described. It must be discharged through an opening in the living bone called a *cloaca;* and before that can be accomplished a great amount of action must take place, and hence the greater danger of these cases. A small portion of dead bone thus confined may put the patient in danger not only of losing his limb, but even of losing his life.

When the necrosed bone has been separated by one or other of these means, granulations arise, and new bone is deposited, to fill up the vacant space. This new osseous tissue, then, is formed by the vessels of the bone itself, and not, as was supposed by the older writers, by the vessels of the periosteum exclusively.

Thus much, then, for necrosis following injury of the external or internal periosteum,

and consequent diminution in the supply of blood necessary for the preservation of the vitality of the bone. Necrosis, however, most frequently occurs from excessive inflammatory action, excited either by injury or constitutional derangement. In this, as in other tissues, we sometimes see inflammation running so high that the part cannot any longer resist, and mortification is the result. Thus, a limb after being exposed for a length of time to severe cold, cannot resist the inflammatory action which follows on exposure, too suddenly, to a more natural temperature. The limb appears to have its force of vitality diminished by the freezing process, and hence it has less power to resist the increased stimulus to which it is exposed. So, again, we sometimes see a tumour which has been imperfectly tied, and not completely separated from its vascular attachments, become completely and quickly sphacelated when attacked by inflammation. The power of resisting inflammation, as it were, is diminished by the partial ligature of the vessels of the part, and thus mortification, as a termination of inflammation, follows more rapidly and effectually.

In the same way, in necrosis, the death of the bone occurs the more rapidly and extensively when the periosteum is inflamed, and the circulation through it to the osseous tissue is thereby impeded.

In cases where necrosis is the result of excessive inflammatory action, the disease, instead of being confined to a mere shell, external or internal, generally occupies the entire thickness of the bone, and may extend all round the circumference of a part, or even of the whole length of the shaft.

The process of separation is then a very tedious one; for first of all a quantity of new bone must be deposited around the dead shaft, and then, when this external shell is sufficiently strong to answer all the purposes of support, the old portion must be separated by a process similar to that I described for throwing off a small sequestrum.

Lastly, necrosis is occasionally a secondary affection, as, for example, when abscess has occurred in the popliteal space, amongst the quantity of fat there contained, and when the pus has been for a long time exercising pressure on the lower portion of the femur above the condyles. In such cases no slight difficulty is experienced in getting quit of the dead portion of bone.

Necrosis more frequently occurs in the dense part of bones (as in the outer or inner shell of the shafts of long bones) than in the cellular or cancellated structure. Nevertheless, it does occasionally occur in these parts; and we sometimes find sequestra in the vertebræ, in tarsal bones, and in the heads of long bones, &c.

However, the greater number of cases of necrosis are such as I have just been mentioning, namely, in the shafts of the long bones, and that at the most exposed parts. It consists, as we have seen, of loss of vitality of the external cortex, the internal shell, or the whole thickness of the bone, either round a part or the entire circumference. You can easily understand how readily an external necrosis or exfoliation can be repaired. There is a great deal of excitement around the part where necrosis is about to take place; the bone becomes swollen, the tissue spread out, the blood-vessels and foramina enlarged, and provision is made, even before the bone is perfectly dead, for its replacement, new osseous matter being deposited all around the part at an early period of the disease.

In my next lecture I shall explain to you what happens when any part of the shaft of a long bone dies, and the circumstances which attend the formation of a substitute bone.

HOSPITAL FOR THE CURE OF DEFORMITIES.

COURSE OF LECTURES

ON THE

DEFORMITIES OF THE HUMAN FRAME.

BY

W. J. LITTLE, M.D.

Delivered in London, at the Orthopædic* Institution, or Infirmary for the Cure of Club-foot and other Distortions, 1843.

In commencing a series of lectures on the deformities of the human frame I shall briefly allude to the circumstances which have occasioned their delivery. The charitable institution in which we are now assembled was founded in 1838, less than two years after the introduction into the metropolis of Stromeyer's improved method of remedying, by subcutaneous section of tendons, the deformity named *club-foot*. The principal reasons assigned by the supporters of the charity for establishing an additional medical eleemosynary institution in London, were the dispensation of that relief to poor persons afflicted with deformities which they were unable to obtain in the existing hospitals, the formation of a school for studying deformities, and education in the art of remedying them. Difficulties in forming the charity were not unforseen. For my part, I was convinced that the best method of overcoming such prejudices as exist in the profession against the establish-

* From *ορθος*, *straight*, and *παις*, *child* (a young person), the art of straightening children. The term is now extended to the art of curing distortions in general. Andry (1723) defines it to be the art of correcting and preventing deformities in children.

ment of charities for treating special branches of medicine, would consist in freely inviting its members to witness our proceedings and share its benefits. Our wards have, in consequence, been numerously visited by physicians and surgeons from all parts of the kingdom, and by many eminent foreigners. My own reward for assisting to form this institution has consisted in the resulting professional intercourse with so many enlightened individuals, in the many opportunities afforded me for investigating distortions of the frame, and in the gratification of delivering these lectures and acquainting you with the information that I have thus been enabled to acquire on the subject. The charity already presents to you a large field for observation. The average number of out-patients in almost daily attendance is upwards of fifty. Among them you may witness, every deformity that occurs, principally in infants and children, while the more severe cases, usually those of adults, are admitted into the wards, where ten or twelve beds are generally occupied, an amply sufficient number of patients for clinical purposes; and I hope that the medical students of London will, by attending a month or longer on this branch of practice, derive advantages that were not possessed by their predecessors. Deformities are not less interesting to them than diseases of the eye. Students, when in practice, will probably find equally numerous occasions of relieving congenital or acquired deformities as of curing affections of vision; and, as attendance on an ophthalmic infirmary is justly considered essential to complete a medical education, so, in my opinion, students who, in the present day, leave the metropolis without adequate acquaintance with the treatment of deformities, will, by and by, lament the omission.

Although the importance of studying the treatment of deformities has recently been more fully acknowledged, it was not neglected by the ancients; it was not omitted by Hippocrates, who showed a correct acquaintance with club-foot in his treatise, "De Articulis," and his method of restoring an infantile deformity of this nature, by bandaging, may be advantageously followed in an appropriate case in the present day. In truth, the methods of remedying infantile club-foot related by succeeding authors are but different versions of the precepts of the father of medicine. Several treatises on the cure of special deformities, or on malformations in general, were published during the eighteenth century, though few of them are entitled to rank as scientific works. At that period the art became a special branch of healing, and upwards of a hundred years since it received the title of the Art of Orthopædy.

With improvements in medicine generally, increased attention was given to deformities, particularly of congenital malformations; the radical cure of hare-lip, described by Celsus and the Arabians, became a common operation; other congenital fissures were restored by the *plastic art*; and the division of the sterno-mastoideus muscle, for the cure of wry-neck, was frequently effected by distinguished surgeons.

The uncertainty, the difficulty, and the frequent impossibility, of curing many deformities, caused orthopædy to be relinquished by the regular surgeon to empirical practitioners entirely destitute of medical knowledge. Hence, even after the commencement of the present century, the treatment of deformities remained for the most part in perfectly ignorant hands. So neglected in general was the matter, that an unfortunate sufferer from a congenital deformity, after failure of some simple means adopted by the midwife or accoucheur, was happy, in many situations, in finding a common blacksmith who could partially relieve his infirmity by the construction of "an iron." Individual empirics and instrument-makers, by dint of greater perseverance, unquestionably obtained greater success in treatment than others; but their experience was either confined to themselves, being totally lost on the cessation of their labours, or, if they published any account of them, the work consisted usually only of announcements of their "remarkable cures," instead of the means by which other practitioners might reasonably expect success. A circumstance equally prejudicial to the art of curing deformities was the common habit of exaggerating the results of any really useful plan, less, in many instances, from studied dissimulation, than from the tendency to delusion in the empiric, who had, in truth, occasionally effected a cure that had not been attempted by a regular practitioner. Success in some cases created a greater evil, namely, that of professing to remedy more serious deformities. Failure in these brought discredit on preceding labours, and so retarded confidence in orthopædy. Thus the labours of the few talented medical men who devoted their energies to this subject did not receive proper attention. The names that stand foremost among the regenerators of orthopædy are those of Thilenius, a physician of Frankfort, who first caused division of a contracted tendo-Achillis to be effected; of Scarpa, who first attempted the scientific adaptation of an apparatus to the *anatomical* condition of the bones of the distorted foot; of Michaelis and Sartorius, who repeated the operation of Thilenius; of Dupuytren, who investigated the pathology of contracture of the fingers and improved the operation for wry-neck; and of Delpech, who perceived the cause of previous failure, but who omitted to act on the principles he had adopted. The labours of Delpech,

though calculated to arouse the attention of surgeons, remained apparently unheeded until they evoked the talents and ardour of Stromeyer, to whom is justly due the honour of applying *subcutaneous* tenotomy* to club-foot, and its establishment as a *principle* in operative medicine.

An immense and rapid advance in the treatment of deformities has taken place since Stromeyer demonstrated the absolute safety of this mode of operation. The attempt to cure deformities is no longer disdained by medical men of eminence. Many of my own students have diffused the methods here practised to the majority of the British colonies and some foreign states. Every month has increased the usefulness of the practical orthopædist. Tenotomy has now been successfully applied to every part of the frame. Without exaggeration it can be stated that at the present moment many of the most unsightly deformities may be cured with less pain than can any other class of afflictions at all comparable with deformities in the bodily and mental suffering they occasion. This improvement is attributable to increased experience in the mechanical treatment. Notwithstanding the prevalence of belief in the beneficial effects of proper treatment in relieving deformities, few practitioners are aware that such distortions as these can be so nearly approximated to symmetrical conformation as the models now on the table. The success which may now attend the treatment of deformities, and the extreme frequency of such malformations, should obtain for the subject great attention amongst medical men. Moreover, it is not a dry subject, interesting merely as a branch of practice. The varieties, the etiology, and the pathology of deformities involve questions of the utmost interest to physiologists. The various abnormal forms of the human frame, and the manner of their production, are calculated to illustrate some obscure points in the nervous system. Here are four casts of *talipes varus*, each precisely resembling its neighbour in form, yet each preceded by different etiological and pathological events. Here is a similar series, named *talipes equinus*, and there a similar collection of *talipes valgus*. Here is a model of a congenital deformity of numerous articulations, and there is one of a series of deformities occurring after birth, so entirely resembling the first that at first sight they appear to be identical. It is a new field of intellectual inquiry to reflect on the causes of changes that in form are so similar, their pathological analogies, and the probability and degree of their restoration. Orthopædy is something better than a mere mechanical art; whilst employing its therapeutic resources, many of which are mechanical, the mind is also interested in problems that have hitherto been incompletely solved. In these lectures, however, I shall not tread the paths of theory and speculation, but keep strictly within the limits of practical utility.

The course is designed for students, and from the small number of lectures of which it will consist must be confined principally to elementary and practical matters, becoming, in fact, a series of demonstrations of the subjects rather than formal lectures. As to the manner in which the subjects can be subdivided for the best comprehension of my views on the pathology and treatment of distortions, a topographical arrangement would appear at first view to be the most simple. Thus I might commence with deformities of the head and neck, and proceed *seriatim* to those of the hip, the knee, the ankle, &c.; but although simple, that plan would be too mechanical to diffuse any light on the pathology of the subject, besides occasioning many repetitions and confusion of points. An anatomical subdivision would be the most complete. Thus I might consider, first, the deformities arising from diseases of *the bones;* secondly, those resulting from diseases of *the muscular system;* thirdly, those arising from diseases of *the ligaments;* and in this manner successively review the influence of disease of the several tissues in producing deformity. But although this proceeding would offer the best guarantee of certainty and accuracy, I am doubtful whether the morbid anatomy of deformities has hitherto sufficiently progressed to enable me thus to classify these affections. Besides this objection, you will find, on advancing in the study of distortions, that derangements of the osseous and muscular systems are so frequently combined as to render a strictly anatomical arrangement impossible.

In the present state of the science, therefore, I prefer a classification that is allied to the *anatomical*, namely, one founded on *the pathology of deformities*. It will, at one view, be found more suggestive of information relating to their nature; for, although the etiology and pathology of some distortions is still involved in a degree of obscurity, inaccuracies are less liable to occur in referring them to pathological heads. Numerous deformities are congenital, a still larger number are acquired or developed after birth. Perhaps you will consider that *congenital* distortions should give to them a claim to prior consideration; and, indeed, the mystery attached to their origin has long almost exclusively attracted the investigation of distinguished anatomists and physicians. Popular emotion has at all times been powerfully excited by the view of congenital deformities, and they have been speedily brought to the notice of professional men; this affords an additional explanation why more frequent attempts at restoration have

* From *τενων, tendon*, and *τεμνειν, to cut.*

been made of these than of acquired distortions. But, in my opinion if the non-congenital deformities had previously arrested their inquiries, by studying the production of that which daily occurs to view, they would have more readily and correctly comprehended the origin of that which occurs secretly in the uterus. I shall commence with acquired deformities, believing that when conversant with these you will understand better the nature of congenital affections.

A constantly recurring cause of deformity is inflammation and disease of an articulation. The surgeon views with apprehension the progress of such a case, often proceeding, as it does, in defiance of every remedial measures. He witnesses the production of a contracted and immovable articulation. Or even greater disorganisation of the ligaments and other tissues of the articulation having ensued most serious deformity results. The pathological changes that have produced deformity are in those instances perfectly understood. Their progress being often slow they can be conveniently studied and their respective influences determined. Hence the *first subdivision* of non-congenital deformities which I shall consider consists of those arising from *causes directly affecting the articulations*. This subdivision includes, therefore, the contractions induced by injuries or diseases of articulations,—all the various forms of stiff-joint, or ankylosis, the causes of which act primarily on the passive organs of movement, namely, the joints.

An equally numerous series of deformities results from causes which operate indirectly on the articulations. For instance, spasmodic affections of the muscles are familiarly known to the physician by inducing a contracted and immovable condition of the articulations influenced by those muscles; or paralysis of certain muscles will disturb the antagonising powers of a limb, inducing deformity. In these cases the muscles being primarily affected the articulations become secondarily involved. Cicatrices from loss of substance, as from gangrene, ulceration, burns, &c., excite deformity in a similar manner.

The *second subdivision* of non-congenital deformities consists, then, of those which arise from *causes indirectly affecting the articulations*, and in order to distinguish a case of this nature from ankylosis I name it *contracture*. A third subdivision of acquired deformities is to be found in the distortions arising from causes that affect simultaneously both the muscles and the joints; such are rachitic deformities, which, as medical practitioners and students, you know to be *deformities from debility*.

Congenital deformities are divisible into two classes. I shall hereafter describe several distortions, of various severity, induced, in my opinion, by derangements of the nervous and muscular systems of the fœtus, independently of any absence or deficiency of parts, characterised, also, by their capability of restoration to a surprising degree of perfection. These I shall include under the head of *congenital distortions*. In the last category I shall consider those in which, whatever may have been the primary interruption of normal development in the fœtal parts, a total absence, incompleteness, or malformation of organs exists. These may be termed *congenital malformations*.

Every deformity of the human frame with which I am acquainted is referrible to some one of the above pathological heads. Some of my hearers may have observed that no direct mention has been made of distortions of the spinal column. But I have already stated my objections to a classification of deformities founded on *regions* of the body. Some distortions of the spine, moreover, are referrible to the first subdivision, namely, *ankylosis*; others are analogous to *contractures*; while the greater number of spinal curvatures belong to the third subdivision of acquired deformities, namely, *rachitic distortions*. Here, for the present, I shall close the subject. In my next lecture I will furnish you with a diagram, that will serve to show at one view the whole classification of deformities, and the plan of the entire course.

INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF THE MEDICAL SCHOOL OF

ST. THOMAS'S HOSPITAL,

On Monday, Oct. 2, 1843,

By R. D. GRAINGER, Esq., F.R.S.,
Lecturer on Anatomy and Physiology in the School.

Comprehensive nature of a medical education. The uses of anatomy, human and comparative. The other branches of medicine. Divisions in the practice of medicine. It is one science notwithstanding. Operations. Therapeutics. The application of the microscope to discover facts in medicine. The recent important discoveries of Drs. Stilling and Wallach concerning the medulla spinalis, the medulla oblongata, and the origins of the spinal nerves. Peculiar necessity for studying forensic medicine. The rendering of towns and houses more healthy. General advice for students. Chambers for students at the hospitals.

Gentlemen,—In contrasting the science of medicine with the other liberal professions, one, and probably the most striking point of difference it exhibits, is the extent and variety of the subjects comprised within its domain. In addition to what we may regard as the more special objects of its research—ana-

tomy, physiology, therapeutics, and pathology (external and internal)—it also embraces, as collateral, but at the same time essential, subjects of study, several sciences which are usually cultivated as distinct branches of human knowledge. Chemistry, botany, comparative anatomy, and natural philosophy, are in the present day demanded of the student of medicine, not only by the governing bodies of the profession, but by the general expectation of the public. This extension of education has, doubtless, been one of the most influential of those causes which have elevated our profession in the estimation of the community. It is, indeed, difficult to conceive a position more honourable or more useful than that which is held in society by the well-educated medical man; for whilst, by his professional skill, he is constituted the dispenser of benefits second only in importance to those which spring from religion, by his scientific attainments he becomes the instructor of the circle in which he moves. The importance of services such as these has been recognised in all highly civilised countries, by the supreme authority which bestows honours securing to their possessors rank and station, and by the legislator who exacts those scientific acquirements by which the safety and well-being of the community are insured. And herein, as it seems to me, we perceive a reasonable and sufficient ground for those additions which have from time to time been made in the curriculum of medical studies. In advancing this opinion I am not forgetful that these successive extensions of the period required of the student to be spent in the schools have not been accomplished without remonstrances against their justice, or in the absence of doubts as to their utility. Without wishing to vindicate all that has of late years been promulgated, I may yet be permitted to express the conviction I entertain that the legislation in medical education, by extending the time occupied in cultivating the higher branches of our science, has been in the right direction; and I will further affirm that if, as a necessary antecedent to every scheme of improvement, the apprenticeship of five years had been abolished, the propriety of raising the standard of education would have met with a general acquiescence on the part of the profession. Whatever may have been the causes preventing this abolition they are deeply to be regretted, inasmuch as they have not only impeded all plans of improvement, but in addition they have inflicted not a little injustice. I have known, for instance, repeated cases of young men coming to town to commence their studies, who, having served the full period of five years in the country, often, it must be said, with little advantage to themselves, have actually been compelled to study in the whole eight years in order to procure the licence of the Apothecaries' Company, whilst half that time would suffice to obtain the degree of medicine in the most celebrated universities of Europe. It is sincerely to be hoped that whatever plans of improving the state of the profession may be brought forward by the Government the first step will be to remove from the statute-book this absurd regulation, which, in addition to the other objections I have noticed, tends to degrade the profession by requiring its members to commence their career as if they were entering upon a mere handicraft occupation.

The ultimate object of all medicine and surgery is the maintenance in health and vigour of those varied actions, which, in their totality, constitute the life of man. To attain an object thus comprehensive the professor of our science must, in the first place, take cognisance of the machine whose actions he is to regulate; he must scrutinise, in order to understand, the phenomena it displays; and he must more especially investigate those deviations from the normal structure which constitute the essence of disease. By inquiries thus directed the physician will acquire a knowledge of that upon which he is to act, whilst, by a careful study of the properties and *modus operandi* of those diverse agents which experience has taught are susceptible of modifying and thus of controlling the actions of the living body, he will possess the means of fulfilling the indications derived from an enlightened pathology.

In the present day the word *anatomy* has an extensive signification, and conveys a meaning widely differing from that attached to it in former years. The science itself has not, indeed, changed, nor, with some few exceptions, have any novel modes of prosecuting it been introduced, for the various means of elucidating the human organisation now adopted are, for the most part, similar to those by which the most distinguished anatomists in former days enriched our art, and rendered their names illustrious. The application of comparative anatomy, the investigation of the embryonic structures, and the employment of the microscope, were as familiar to Malpighi, Ruysch, and Fontana, in the seventeenth and eighteenth centuries, as to the Müllers, the Schwanns, and the Barrys of the nineteenth. The chief differences are these,—that inasmuch as in former years these scientific means of research were restricted to the few, they are now, in correspondence with the spirit of the age in which we live, extended to the many; that, whilst the older observers prosecuted their inquiries under all the difficulties consequent upon the use of imperfect instruments, we possess the advantage of making our observations with all the appliances of modern art, and especially with the aid of that most beautiful production of human ingenuity, the achromatic microscope. That, more than all, whilst our great predecessors, with some splendid exceptions, were satisfied with ascertaining isolated facts, or were compelled to attempt the erection of

general laws upon data which the then existing state of knowledge rendered insufficient to the end designed, the anatomists of the present epoch, following in the path which was indicated by the sublime mind of Göthe, have not feared to announce generalisations, which, in the absence of the profound knowledge of animal organisation now attained, would have seemed to be but the dreams of a poet or the imaginings of an enthusiast.

But, to return from this digression. It is an observation rendered trite by repetition, that the human frame is infinitely complex in its organisation and varied in its parts; that man stands at the summit of living nature. But the elucidation, in all its ramifications, of this truism, discloses principles of the highest significance, in the comprehension of which would be found at once the cause and vindication, if such were needed, of that extended and varied course of study upon which you are now entering.

The machine affording the temporary abode of the immortal part of our being is made up of the common elements of matter, and subject to the general laws of physics and chemistry, presenting, however, in addition, phenomena governed by laws of which the inorganic world offers no counterpart. It is this combination of actions, partly vital and partly physical, which compels both the anatomist and the physiologist to seek in chemical action and mechanical forces for the solution of phenomena which have frequently been exclusively attributed to vital influence. Among the many grand truths which have in late years been discovered there is not one which has been productive of more important and exact results than that which relates to the influence of physical agents on life. Without falling into the errors of the contending sects of the chemists and the mathematicians, the former of whom accounted for all the operations of the animal economy by the chemical action of the components of the body upon each other, and the latter by the principles of mechanics, the physiologist must never lose sight of the fundamental fact we have just noticed, in which we perceive one among other reasons for that acquaintance with chemistry and natural philosophy which is required of the medical student.

In the present day no plan of medical education is considered complete which does not include comparative anatomy, and in the justness of this opinion I entirely participate. If, indeed, by medical education is meant just that amount of knowledge which will enable the practitioner to get through the ordinary routine of his profession, not only might an acquaintance with animal organisation in general be dispensed with, but many of the higher branches of human anatomy and physiology might be neglected as of no present or immediate application. But such is not the spirit in which the members of the liberal professions are at this time expected to prepare themselves for the discharge of the duties they undertake; for the important truth has at length been discovered, that to accomplish what may appear to be a very simple matter much knowledge is necessary; and assuredly it would be a perilous experiment to limit the education of the medical practitioner within the bare bounds of what might seem to be demanded of him who so often holds the balance between life and death.

It may be said of comparative anatomy that it is to the physiologist what the propositions of Euclid are to the mathematician: it affords the demonstrative evidence of the science of organisation freed from the many sources of fallacy and error which have ever yet attended the other leading branches of investigation, organic chemistry, minute anatomy, and physiological experiment. The physiologist wishes, for example, to comprehend the principle of the composition of forces, as displayed in so many of the movements of the human frame; or the anatomist seeks to discover the ultimate structure of the complex glands of the body. The first, by observing the peculiar diagonal disposition of the muscles which move the tail of the fish, has a distinct demonstration of the manner in which a body is propelled in a mean direction by two opposing forces; whilst the second, by commencing with the simple cæca of the aphrodita aculeata, and proceeding to the large biliary pouches of the lower mollusca, and the cæcal canals so beautifully displayed in the decapod crustacea, detects the principle upon which all glands, simple or complex, are formed, and thus is enabled to solve a question which has been the stumbling-block of all the cultivators of our art from the times of Malpighi and Ruysch.

It is to me, and, I may safely add, to my colleagues, a source of satisfaction that in this interesting branch of your study you will enjoy the great advantage of having for your instructor a gentleman who occupies a distinguished rank among the physiologists of the day, and who, to the many other titles he has to our respect, possesses this in addition, that he is the first English writer who has treated of physiology in combination with that which constitutes its natural basis, vegetable organisation and comparative anatomy.

The several subjects which I have thus briefly submitted to your consideration, viz., chemistry, human and comparative anatomy, and to which we may add botany and materia medica, constitute so many preparatory steps towards that which is the ultimate object to be attained, the power, namely, of successfully treating disease. In this and in all other countries, although there may be some minor differences, diseases for the purposes of study, and, in a more limited degree, also, for those of practice, have been divided, according to their seat, into the in-

ternal and the external. This demarcation, which is rather conventional than real, has doubtless been the source of much evil both to medicine and surgery, but in a more particular manner to the latter; and so long as it was the custom to limit the education of the future practitioner to one or the other branch exclusively, it is certain that the means available for the relief of human suffering would not be applied in all their efficiency. In the present day, however, all are fortunately agreed, that whether the practitioner propose to devote himself more particularly to the treatment of medical or surgical complaints, the student in all cases ought to receive, to a very great extent, precisely the same education. This great principle being conceded, it would not, I conceive, be difficult to show, on satisfactory grounds, that it is desirable to maintain the present divisions in the practice of the profession.

There are few things which have been more influential in promoting the progress and well-being of society than the principle of what is termed the division of labour. All experience has shown that whenever the wants of a community have risen above the mere physical demands of our nature, they are supplied more economically, and, what concerns the present question, much more effectively, by the establishment of distinct and even multitudinous occupations. The profession of medicine forms no exception to this fundamental rule of political economy, for in a science so comprehensive it would be impossible for the generality of men to acquire great skill in all its branches. The world has not yet seen combined in one individual the pathological knowledge of a Baillie, and the *tactus eruditus* of a Cooper. We may, I think, go even further to assert that it is conducive to the public welfare that certain members of our common profession, all having received the same general education, should, without becoming what are called branch practitioners, by which they would be liable to fall into all errors resulting from narrow and partial views, more exclusively direct their attention the to subdivisions of medicine and surgery. The truth and scope of these remarks will be illustrated by a reference to the diseases of the eye and the ear. In both of these cases, and especially in the former, it would be very difficult for any one who had not devoted more time to the matter than is compatible with the multitudinous engagements of general practice, to acquire that manual dexterity and that correct diagnosis, without which neither surgical operations nor medical treatment could have any other than disastrous results. Without concluding that in the present day all would meet with the same misfortunes as the German oculist, who admitted that he had spoilt a hatful of eyes in acquiring skill in operation, we may yet do well to remember that our own country has within a recent period, afforded examples of surgeons, whose brilliant and successful operations for cataract have become proverbial, who commenced their career amidst failure and disappointment.

Although the divisions which at present exist in the practice of the profession appear on the whole to be beneficial, it is not the less certain that the education of the student should combine the whole of medicine and surgery. The history of surgery, which, in an especial manner, confirms this position, teaches us that so long as the surgeon was ignorant of the general principles of pathology, his medical treatment, which, with some palpable exceptions, is the most important point in the management of external diseases, was most ineffective, and as a necessary consequence, not only was the number of operations immensely and unnecessarily increased, but, from defective after-treatment, the chances of failure were fearfully augmented. It is probable that owing to the more skilful management of ulcers and diseased joints, the number of amputations has been reduced within the last fifty years in the ratio of nine in ten, and in other affections, such as chronic testitis, in former days a frequent cause of castration, a proportional amelioration has been effected. The incalculable advantages which have sprung from the constitutional treatment of local diseases, are equally conspicuous in the after-treatment of operations. Who, for instance, can estimate the saving of human life which has resulted from the skilful management of patients who have submitted to the operations for hernia and lithotomy, or the success which has attended the more decided and scientific treatment now adopted after the extraction of cataract. The decrease of human suffering consequent upon the diminution of painful operations, and of still more painful mutilations; the increase of human happiness which has sprung from the successful issue of operations when necessary, are among the triumphs of our art which are more consolatory to the philanthropic mind than all the brilliant operations which crowd the annals of surgery.

It will not, I trust, be deemed misplaced if I pause for a moment in order to warn those members of our school whose studies are approaching their period, that manual operations are neither the exclusive nor even the principal objects of surgical skill; that the practitioner who, by his medical knowledge, is enabled to preserve an important organ, has an infinitely higher claim to our admiration than the surgeon, who, confessing the inefficiency of his remedial powers, sacrifices a part which he is unable to preserve; and that though a kind of prestige, of which it is difficult to resist the influence is inspired by the dexterous operator, yet that higher quality which enables the surgeon to substitute the matured results of pathology for

manual skill, will always receive, as it unquestionably deserves, that best reward of human exertion, the approbation of the wise and the good.

In all, then, that relates to your surgical studies, it will be your object not only to acquire a knowledge of the most approved modes of operating, but to avail yourselves of the extensive opportunities afforded by this, as by the other great hospitals of the metropolis, of noting every improvement which is introduced into the management of external disease, and more particularly of ascertaining, by an observation of their results, what mode of constitutional treatment is best adapted to each individual affection.

Having thus briefly alluded to what appear to be the objects most desirable to attain in the study of surgery, I will venture to place before you some suggestions in relation to a much more difficult branch, that of medicine. It is, however, with some unwillingness that I can touch upon a subject which the nature of my pursuits has not qualified me to discuss; this consideration, indeed, would probably have induced me to omit this matter altogether, if I were not aware that any fallacies into which I may fall will receive correction in those discourses introductory to this particular department of your studies, which will be delivered by a physician not less distinguished by his abilities and acuteness as a practitioner, than by his penetration and profundity as a physiologist.

Medicine, like surgery, has its theory and its practice; the one relating to principles, to general laws, to circumstances which have an application to all diseases; the other containing the investigation, treatment, and result of individual maladies. To illustrate this distinction—the theory of medicine involves such generalities as these: the general causes of diseases, whether relating to constitution, sex, age, or climate; the nature of inflammation, of congestion, of irritation; the general characters of such affections as tubercle, scirrhus, and melanosis. The *practice* of medicine, on the contrary, takes cognisance of the affections of particular organs and of peculiar diseases, and herein are included all that relates to their causes, diagnosis, and treatment.

Without entering into details incompatible with this occasion, I am anxious to direct your earnest attention to the subject of clinical instruction, the importance of which it is impossible to exaggerate. This essential branch of education is in this hospital raised to its proper place, and as ample means are now afforded for studying the signs and character of disease at the bedside of the patient, the responsibility of neglecting such favourable opportunities must in future rest with the pupil, not with the teacher.

Another of the recognised means of investigating the nature of disease is to ascertain, in fatal cases, those changes of structure which the organs of the body have experienced. Many of these, especially in an advanced stage, can be detected by the ordinary means of a post-mortem examination; but to determine the first deviation from the healthy state, and even the essential changes subsequently induced, the pathologist must have recourse to the microscope. This instrument by increasing, to a vast extent, the powers of vision, accomplishes for the eye what the stethoscope, on a much more restricted scale, effects for the ear, and it would therefore be no more reasonable to banish the former than to discard the latter as a means of research.

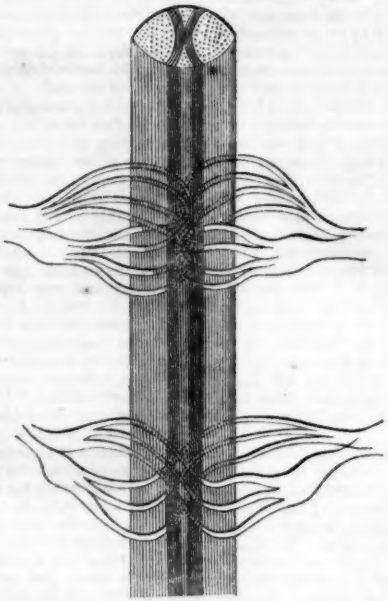
One of the latest applications of the microscope is that for which we are indebted to Dr. Stilling and Dr. Wallach, and the importance of the inquiry may be judged of by the fact that if the deductions about to be stated are ultimately established, they must considerably modify several of the received opinions on the subject to which they relate. These researches concern the intimate texture of the medulla spinalis and the medulla oblongata, and more especially the origins of the spinal nerves. As there may be some here present who may be desirous of repeating these observations, I will, in the first instance, briefly describe the method adopted by these gentlemen, as given by Dr. Stilling in his work entitled, "Ueber die Textur und Function der Medulla Oblongata." Extremely thin sections of the spinal cord, longitudinal and transverse, are to be made by means of a very sharp and broad razor, rather hollowed on the surface, which, as in making other delicate animal and vegetable sections, is to be kept quite wet on the surface by spirits of wine. These sections, of which there are specimens before us, are made in every part of the cord from the cauda equina to the pons varolii. Considerable importance is attached to the state of the cord when examined; and my own experience has long since taught me that the whole question of success or failure in examining a part of such extreme delicacy very much depends on securing fit specimens. The examination is made most satisfactorily on the spinal cord of an animal, a calf, or dog, for instance, just killed, the delay of a few hours causing considerable changes; but for an extended inquiry like this, it is necessary to have parts always ready, and they are thus prepared:—"I place," says Dr. Stilling, "a fresh spinal cord and medulla oblongata, as they are taken from the body, in weak spirit, and allow them to remain in it twenty-four hours; then I pour off the spirit and place fresh but stronger spirit on the parts, which, after two or three days, is again poured off, and then the strongest rectified spirit is used; the specimens being allowed to remain in it from four to eight days, acquire by degrees such hard-

ness as to allow of the finest sections being made.

The sections being provided (if from a recent cord) are then to be extended by means of a compressorium, differing in some respects from the instrument usually employed. Low powers are best adapted for the examination; a lens of two-inch focus being first used, and then others of a higher power. The following is a summary of the facts which are announced in reference to the structure of the spinal cord :—

1. All the white external longitudinal fibres of the cord, anterior, lateral, and posterior, run uninterruptedly from the cauda equina to the pons varolii, and also are continued beyond that body towards the brain. (See Fig. 1.)

Fig. 1.



2. The same course is observed by the longitudinal fibres of the gray internal substance of the cord, and by the fibres of the part named by Rolando substantia gelatinosa, which is placed behind the posterior horn of the gray matter of the cord.

3. The anterior division of the gray matter but not the posterior contains a number of corpuscles. (See Fig. 2.)

4. A central canal runs along the whole length of the cord. (See Fig. 3.)

5. The anterior and posterior transverse commissures of the cord consist partly of transverse and partly of decussating fibres.

The most important observations are those which relate to the connection of the roots of the spinal nerves with the cord; they are as follows:—

1. All the fibres of the anterior and posterior roots pass between the longitudinal fibres of the cord in a transverse and horizontal direction. (See Fig. 1.)

2. All the nervous fibres of both roots enter the gray substance of the cord, those of the posterior root previously crossing the substantia gelatinosa. (See Fig. 4.)

3. Some of the fibres of the posterior roots become continuous with the fibres of the anterior root of the same side. (See Figs. 1, 3, and 4.)

4. A part of the fibres of the posterior root cross the mesial plane of the body, passing some before and some behind the central canal of the cord; they then run forward, pass between the corpuscles above noticed of the anterior cornu of the gray matter, and leave the cord as a part of the anterior root of the opposite nerve. (See Figs. 3, 1, and 5.)

It would lead to details inconsistent with the present occasion to speak of the interesting researches into that most complex organ, the medulla oblongata, respecting the structure of which several parts are described which hitherto were unknown.

Fig. 2.

Transverse section of human medulla oblongata, hardened in spirit and made through lower third of corpora olivaria. Magnified ten linear.

a. Anterior longitudinal fissure.
b. Groove of calamus scriptorius.
c. Raphé.
d, *e*. Posterior and lateral longitudinal fibres, intercepted by fibres going to raphé.
g. Nucleus of hypoglossal nerve.
h. Nucleus of vagus.
i, *i*. Substantia gelatinosa.
k, *k*. Roots of vagus.
l. Root of hypoglossus.
m. Longitudinal white fibres.
p. Fibræ arciformes.
q. Nucleus of olive.
r. Nucleus of pyramid.
s, *s*. Necleus of larger pyramid.
u. Accessory nucleus of olive.
w, *v*, *t*, *a*. Fibres crossing pyramid externally and going to raphé.

Fig. 3.

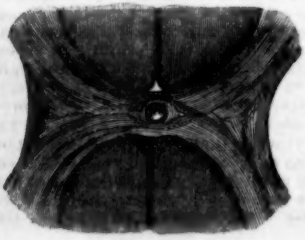


Fig. 4.

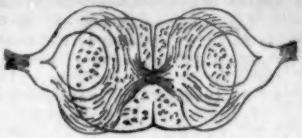


Fig. 5.

Transverse section of the human spinal cord, made in the cervical enlargement. Magnified twelve linear.

a. Anterior median fissure.
b. Canalis spinalis.
c. Posterior median fissure.
d. Divided extremities of white anterior fibres of the cord.
e. White lateral fibres of cord.
f. White posterior fibres.
g. Anterior gray substance, with scattered corpuscles.
h. Posterior gray substance.
i, *i*. Substantia gelatinosa.
k, *k*. Posterior roots of spinal nerves.
l, *l*. Anterior roots of spinal nerves.

To those whose attention has been directed to the intimate texture of the spinal cord, the investigations just noticed are full of interest. Through the kindness of Dr. Stilling, I have had, with many others, an opportunity of examining his preparations. And, in the first place, I would remark that his mode of displaying the disposition of the parts is most satisfactory, and must be regarded as a great step gained in the investigation of the nervous centres. With re-

spect to the facts announced, I am convinced, from repeated inspections, that many of them are strictly true, but not having had an opportunity of examining all the fibres constituting a root of a nerve, I am not prepared to state whether the whole of them, as Dr. Stilling avers, penetrate into the gray matter. The fibres which I did examine undoubtedly passed into that substance; the existence, also, of the central spinal canal, and of the peculiar decussation around it, were plainly demonstrated. This decussation between a part of the posterior root of one side of the body and of the anterior root of the other, is a novel and interesting fact, and will henceforth have to be taken into consideration when the path is investigated by which impressions made on one side of the body, as in physiological experiments and in traumatic tetanus, are transmitted to the opposite.

These anatomical researches are in some important respects opposed to the prevailing opinions, and particularly to the views which I have myself announced, but as my object has been to discover the truth, not to maintain a theory, I have derived great satisfaction from observing how much this mode of examination promises to advance our knowledge in one of the most abstruse branches of anatomy.

There are some particular branches of education which, although not immediately connected with the ordinary routine of the profession, are yet of such high concern to the public health and safety, that no practitioner who is conscious of the duties he has to perform, will feel himself at liberty to neglect. Thus, for example, the surgeon and physician are often called upon to promote the course of justice, sometimes in the civil courts, by pronouncing upon the existence or non-existence of insanity; more frequently in the courts of criminal justice, to facilitate the detection of the guilty or to rescue the innocent from unmerited punishment. There are few positions, it must be confessed, in which our professional brethren appear to so little advantage as when placed in the witness-box, and not unfrequently their private interests suffer as a consequence.

Now, it is apparent that an acquaintance with forensic medicine, which combines a competent knowledge of the laws of evidence with those parts of our science which more especially relate to the infliction of personal violence or injury, would enable the practitioner to meet the demands of public justice with equal credit to himself and advantage to the community.

This branch of education has latterly become more necessary in consequence of the public having at length recognised, what had long been apparent to reflecting persons, that medical men are fitted in a peculiar manner to discharge the important duties devolving on the office of coroner—a change of opinion for which the profession is mainly indebted to the gentleman who so admirably fills this post in the county of Middlesex.

The members of our profession have, however, other demands upon the knowledge it is presumed they possess, in which the cause of humanity is even more immediately and extensively implicated than in that more limited class of cases which require judicial interposition. There is a vast variety of questions demanding solution at our hands, in which the public health is deeply concerned. The ventilation of private and public buildings; the drainage of our towns and cities; the effect of different kinds of labour on childhood and youth;—these are subjects in which medical men, were their attention and inquiries specially addressed to them, might afford invaluable assistance, both in their private and public capacity. The fearful effects of ill-ventilated and ill-drained manufactories and dwellings are beginning to command the public notice; but it cannot be said that that profession which has for its end and object the prevention as well as the cure of disease, has fulfilled its mission or discharged its duty when large and populous districts in many of our great cities have been desolated as if by a plague, by causes many of which are susceptible of removal by the combined efforts of medical and physical science. I am far from denying that many meritorious examples of individual exertion might be adduced, but as a body our profession has not taken that active share in obviating so gigantic an evil which the interests of the public urgently demand.

That a general apathy has until very lately existed on this subject, may be gathered from the admirable Sanatory Report of my friend, Mr. Chadwick. This gentleman observes that the statements illustrative of the condition of the labouring population of the towns to which his inquiries extended, were received with surprise by persons of the wealthier classes living in the immediate vicinity, to whom the facts were as strange as if they related to foreigners or the natives of an unknown country; and that, further, in Glasgow, Edinburgh, and this Metropolis, he found that the inhabitants of the front houses in many of the main streets had never entered the adjoining courts or seen the interior of any of the tenements situate at the backs of their own houses in which their workpeople or dependents often resided.

A still more striking and apposite illustration of the ignorance which prevails, even among medical men, on this all-important subject, is afforded by the valuable inquiry of Dr. Duncan respecting the "Physical Causes of the High Rate of Mortality, in Liverpool," recently published by the Literary and Philosophical Society of that town. From the evidence there collected it appears that whatever is the test applied, the duration of human life in Liverpool is fearfully curtailed. Thus, whilst according to the latest

and most careful calculations it is ascertained that at birth a male has an expectation of living 40¼ years, and a female 42¼ years, it was found that in the four towns of Liverpool, Manchester, Leeds, and Bolton, it is 10 years, and among these the average age at which death took place during the period of one year, was respectively in Leeds at 21 years, in Manchester 20, in Bolton 19, and in Liverpool 17. Again, in 1000 deaths there died persons of above the age of 70 years, in the Metropolis 111, in Birmingham 88, Leeds 79, Manchester 60, Liverpool 54; and in the same number of 1000 deaths there died below the age of 5 years, in the Metropolis 408, Leeds 480, Birmingham 482, Manchester 510, Liverpool 528. Whilst taking together the whole population, the proportion of deaths under 5 years of age is only one-fourth of the live births. Now, it is rather curious that in the midst of such appalling evidence to the contrary, the prevalent opinion, among not only the inhabitants generally but also among medical men, until very lately, was that, as compared with other towns, Liverpool occupied a favourable place in the scale of mortality; and so strong was this feeling, that when Dr. Duncan, about three years ago, gave some evidence before the Committee of the House of Commons, as to the great prevalence of disease among the working-classes, some of the public authorities stigmatised it as a libel on the town. The causes of this bad pre-eminence, as Dr. Duncan expresses it, are not difficult to discover; but without entering into any detail upon this point, I will only remark that the influence of the character of the dwellings occupied by the poorer classes over their health is made most manifest by the fact that whilst in the most unhealthy town in the kingdom, as Liverpool must now be considered to be, twenty per cent. of the working population inhabit wretched cellars unfit for the abode of man—in Birmingham, which is the most healthy of all our large towns, there is not a single example of a cellar being used as a dwelling. I have myself had an opportunity of contrasting, by personal inspection, the state of the dwellings of the poor in these two towns, and I am distinctly of opinion that the superior healthiness of Birmingham is, in a very considerable degree, to be attributed to the fact that in this town there are proportionally more comfortable residences for the labouring population than in any large city in the kingdom.

Without enlarging upon the cruel neglect of the comforts and happiness of the poor, which, in the very heart of a Christian country, the statements just adduced imply, it may be safely asserted that the ignorance upon which it is to be presumed that neglect depends, could not have existed if there had been a board charged with the care of the public health, invested with executive powers, and consisting of paid, and therefore responsible, officers. It is no valid objection against the institution of such a body that boards of health have heretofore, in this and other countries of Europe, failed, to a very considerable extent, in accomplishing the objects they were designed to effect. The cause of failure is readily traceable to the erroneous constitution of these boards, the members of which, being usually unpaid, and having few or no initiative functions, have had neither inducement nor power to discharge their duties otherwise than in a languid and inefficient manner. But a body such as is here contemplated, having the necessary powers, and being authorised to require the valuable aid and co-operation of the medical officers of the poor-law unions, who know more of the actual condition of the labouring population than any other class of the community, would be speedily in a position to eradicate a large part of that monstrous evil which, by depriving the poor, both agricultural and manufacturing, of a comfortable or even a decent home, has become the immediate cause of more misery, more vice, and more crime, than any other single source of that lamentable demoralisation which prevails throughout the land.

Such, Gentlemen, is a brief summary of the objects comprised in the term medical education. That the career upon which you are this day entering is arduous, nay, laborious, cannot be denied; but at the same time it should be understood that there is much to lighten the task and to cheer on the student in the path he is destined to tread. In other professions it often happens that the larger part of what is to be acquired is technical and uninteresting in itself, affording no pleasure beyond that which always attends upon a duty performed. How different is the science of medicine! Many of those subjects which you, from necessity, must study, others choose as a delightful recreation for the mind—chemistry, botany, anatomy, and physiology, human and comparative, all of which are more or less allied with the special objects of medical research, afford in their prosecution a satisfaction which, losing none of its charms by repetition, retains a freshness till the very close of life, favourably contrasting with the satiety which is at once the accompaniment and the penalty attached to mere sensual pleasures. To the rightly-constructed mind it will appear to be a privilege granted, rather than a task exacted, to enter upon the acquisition of knowledge thus varied and interesting—to be permitted to study, and thus, so far as it is granted to man in his present state, to know the nature and to comprehend the causes of some portion of the vast number of the phenomena amidst which we find ourselves placed. But to have a relish for these pure and elevating

pursuits, our tastes must be cultivated and our faculties refined; for the natural man has little aptitude for enjoying the most exquisite works of the creation, or for the contemplation of those laws by which they are sustained. I would then commend to your earnest attention these branches of knowledge, inasmuch as they will subsequently afford pleasing subjects of inquiry in the intervals of more active duties, and specially because, when rightly interpreted, they afford a foundation for the reception of Divine Revelation which can neither be sapped by the arts of the infidel nor overturned by the sophistries of the sceptic.

There is one other subject on which I would say a few words before we quit this theatre.

Feeling, as I do, a sincere interest in the fate of the numerous body of young men who annually visit the metropolis to prosecute their studies, under circumstances of peculiar trial and difficulty, and deeply lamenting the unhappy lot of the many, who, yielding to the temptations by which they are surrounded, make shipwreck of their hopes and fortune, it is with heartfelt satisfaction I hail the first effectual step towards rescuing from impending ruin some, at least, of these victims of idleness and dissipation. I allude to the proposition, which, I believe, originated with the authorities of St. Thomas's Hospital, to adapt to the medical student so much of the collegiate system as relates to the provision of board and lodging. In common with other teachers I know, by experience, with what deep anxiety the period when their sons will have to commence their career in London is anticipated by parents. Now it may be safely affirmed that a very considerable portion of this anxiety would be removed, and much future misery spared, were it possible to secure the advantages which a well-regulated collegiate establishment is calculated to realise. Impressed with this conviction, I would respectfully, but earnestly, appeal to the authorities of this and all similar institutions, to obviate without delay what must be regarded as one of the most serious defects in the present system of medical education. By such a procedure they would raise the character of our profession in the public esteem, and at the same time receive, as they would deserve, the gratitude of all who are interested in the welfare, present and to to come, of the medical student.

In conclusion I will only add that if any of the observations I have ventured to submit to your notice should induce those among my auditors for whose guidance they were more particularly designed, to prosecute the several branches of medical science in an enlarged and philosophic spirit, and hereafter to engage in the practice of their profession with feelings prompted by kindness and philanthropy, I shall have the satisfaction of knowing that I have not entirely failed in the objects I was desirous of accomplishing in this introductory address.

CHARING-CROSS HOSPITAL.

ABSTRACT OF THE

INTRODUCTORY LECTURE

BY

DR. CHOWNE.

After remarking that medicine, like other sciences, could not be considered otherwise than as part of an extensive system, both imparting and receiving aid, and stating that the history of science and of man (who must be regarded as the agent of scientific advancement) are virtually one, he proceeded to remark upon the mental and other endowments of man in the earliest periods of his existence, and through intermediate periods to the present time.

The lecturer, in treating of this subject, and others incidental to the studies of the medical profession, proceeded to notice the influence of climate in rendering man more or less disposed to scientific pursuits, and more or less capable of advancing scientific pursuits.

The fact is abundantly noticed, that the climates intermediate to the equatorial and the polar regions are most favourable to the corporeal perfection of man, and that he has always risen to the highest condition and character within the temperate zones, while great part of Africa has remained almost unknown. The torrid zone, everywhere round the globe, however well known to the geographer, has furnished but few materials for history.

The European, in his own quarter of the globe, is laborious, industrious, and ambitious, but transported to Africa or India becomes slothful and indifferent, which enables us well to understand that the native Indian, for example, becomes enfeebled early, and who, being without mental vigour, we can scarcely wonder at his adage, that "it is better to sit than to walk, to lie down than to sit, to sleep than to wake, and that death is the best of all."

In the advancement of knowledge, science, art, and literature practically separate, and for a season work apart, but again unite, and flow on in one common course. By the aid of literature, as devoted to science, successive occupants of the great theatre of scientific knowledge enter upon their career with the advantages peculiar to the epoch in which they successively come upon its stage; they succeed to the literary and scientific stores already accumulated, whereon they take their stand, and whence they advance in the competition of intellectual achievement.

In the process of dissection the pupil will encounter much that is discouraging, yet would his perseverance be compensated, although his labour unfold nothing to his observation beyond mere form, distribution, and other structural peculiarities of individual parts; but when, in his contemplation, he associates these according to the relation and order in which nature has united them, —when he traces the dependence of one part upon another, and their marvellous adaptation to each other,—when he acquires an insight into the structure of that beautiful organ which may be called the centre of life (the heart), and traces the divers channels proceeding from it, through their divisions, subdivisions, and, finally, infinite ramifications,—when he comprehends the beautiful mechanism by which it acts, the order in which its complicated functions are performed, and the accuracy with which the performance is sustained through all the vicissitudes and commotions, both mental and bodily, of a long life, in all positions and under all circumstances,—when he connects the fact that the vital current requires supplies from the elements of the food we eat, and from those of the air we breathe, with the arrangement that he discovers for the attainment of both these objects,—when he contemplates that in addition to the process of nutrition, with all its apposite contrivances for repairing the wear and tear of the system, a process is necessary for separating from the circulating fluids whatever may not be available in the general economy, and finds a system of contrivances not less appropriate, consisting of glands, which perform the office of separation, tubes which convey away the excretions, and reservoirs for their reception,—he cannot fail to feel that the labour of the occupation is merged in the deep interest which it is calculated to inspire.

The physiologist is unable to obtain a knowledge of the constituent principles of the various solids and fluids of the body, and the modifications they undergo, without the aid of chemistry, that magnificent science which embraces in its grasp the materials of which all things are comprised; which reduces the minutest appreciable particle of matter to its first elements, on the one hand, and demonstrates the laws by which the most complicated combination and most vast accumulations are governed, on the other; which deals with atoms and with immensities by a power that is almost irresistible; which has the capability of rending asunder elements held together by the strong affinities of nature, and again reducing these to their original state, exercising a power that is almost creative,—a science which follows so closely the footsteps of the natural phenomena of the physical world, that the most subtle influences by which they are governed are scarcely beyond its reach; which measures the individual atoms in any aggregate of matter, and, finally, which attains in its deductions a degree of exactness almost equal to the precision of mathematical solutions, proclaims at once its own grandeur, its own useful, and its intimate connection with that study which has for the object of its research the relations existing between man and the physical agencies by which he is surrounded.

The study of medicine especially requires zeal and close application; the requisite knowledge cannot be acquired by cursory and occasional attention merely. The student should turn from all that is likely to preoccupy his thoughts; it will avail him nothing that he hears the precepts of his teacher, that he sees practical illustrations of the doctrines he has heard, that the means of knowledge are placed within his reach, if he remain but a passive observer.

ST. GEORGE'S HOSPITAL.

ABSTRACT OF THE INTRODUCTORY ADDRESS BY SIR B. BRODIE.

HERE was a goodly attendance; the theatre was full, though the audience consisted, in a great part, of "full-fledged" medical practitioners. Sir Benjamin Brodie made his appearance shortly after one o'clock, and was greeted with an unanimous and hearty welcome. He addressed himself particularly to those who were about commencing their medical studies in that hospital—an hospital to a connection with which, as he observed, "much of his own success in life had been owing, and in the welfare of which, and of those educated in it, he should ever feel an interest." He supposed himself addressing many who, having arrived for the first time in the metropolis, the residence of the wealthy, and all who were most distinguished in arts, literature, and science, the seat and centre of commerce, grandeur, and enterprize, would feel their loneliness, and might naturally ask themselves the question, "Who that is here cares for me, an unknown medical student?" and fall into the idea that themselves and their future career, now that they were launched into so immense and wide a world, were matters no more cared for by those around them than the mere dust in the balance. But this, he warned them, was an error. Many eyes were fixed upon them, and their future career and conduct were of more importance to others as well as themselves than they could now imagine. In a few years many of those who now held the highest posts of distinction in medicine would have either paid the debt of nature or would be heard of only as having retired from the

bustle of life—their places would be filled probably by those only a little older than the individuals about commencing their studies; and when these gave room, as in time they must, to others, the contemporaries of his auditors, or perhaps those who now heard him, would be their successors. Destined, therefore, perhaps to fill stations of high responsibility and importance, their course of conduct could not be a matter of indifference to the world; and it rested mainly with themselves whether they would acquire the good or ill opinion of their fellow-beings. Diligence in their profession, integrity, and elevation of feeling and action, formed the sure passport to the one; while indolence, extravagance, and the adoption of frivolous or discreditable habits, were equally certain roads to the other. Being at a period of life when they were not yet responsible to others, students entering their career should be doubly mindful of their responsibilities to themselves. The profession which they had chosen was arduous, but Sir Benjamin stated that he knew of none which would more certainly yield eventually a due reward to the industrious and upright among its professors. Medicine did not, indeed, often lead to political distinction; its sphere was eminently confined to private life; and the lapse of time might be great before the student would meet with his desert in life as the reward of his conduct in youth, but that time would at length inevitably arrive. The man who had made proper use of his earlier years, who had duly attended to the details of study required of those who emulate to become guardians of the health of their fellow-creatures, will be ready in after life to afford the succour of his art with a consciousness of ability to grapple with disease; while he who has neglected his opportunities for acquiring medical knowledge will afterwards ever act with trepidation, and an equal consciousness of inability; his life will be a succession of mean, tricky acts, and he will have the mortification of seeing continually better men preferred before him. "I know of no more unfortunate situation, or one less enviable," observed Sir B. Brodie, "than that of a man who performs duties which he knows he is not qualified to fill." The lecturer proceeded to advise students in various particulars as to their mode of following their studies. He judiciously recommended them to abstain from taking too copious notes of lectures which they might hear to the withdrawing too much of their attention from the lecture, or from taking notes of subjects which do not demand them. He also reminded them that copying the notes of another person was next to useless, for that the minds of individuals being never constituted alike, the same notes could never revive an equally efficient train of thought in any, as in the author.

Such notes as they were disposed to take in the day he advised those who heard him to re-copy and ponder over at night, and he desired them often to converse with their fellow-students on what they had together witnessed or been listeners to. The necessity of exerting their own judgment and powers of observation, and not of taking all for granted, or learning mechanically and superficially what was placed before their attention, he strongly insisted on. The value of this self-tutorship would be strongly manifest in the detection of disease which they would be called upon hereafter to exercise. Though general symptoms were assembled, in description, as characteristic of certain diseases, yet, in practice, no two cases were found to run a course precisely alike; and it would depend much upon the acuteness and judgment of the practitioner to recognise a disease, in spite of the variation that the symptoms might assume. Students were, therefore, cautioned not to trust implicitly to all they might hear in the lecture-room, and to fancy that when they had parrot-like mastered the words of the teacher they had also learned to master the knowledge of the disease. Sir B. Brodie acknowledged that men derived benefit not so much from what was done for them as what was done by themselves; and he said that when they left their medical school they ought to be aware that the most important part of their education was then about to begin, and that they had, in fact, already only *learned the way to learn*. The largest share of a man's knowledge was that which was incommunicable, and though, when he died, three-fourths of his knowledge would die with him, the latter was no less valuable on that account.

In pursuance of his admonitions, and in supposing those whom he addressed at a period of their lives engaged in actual practice, Sir Benjamin reminded them that, for a period at least, their time would scarcely be very fully occupied in professional pursuits, and he advised them to fill up their leisure in cultivating the other branches of liberal science. Medical men, he said, desired, and were expected to be, on a footing with gentlemen in other walks of life, and it was due both to themselves and their profession that they should keep up an acquaintance with the subjects which formed the ordinary topics of conversation in good society. It was no excuse for their personal deficiencies that the standard of general information *demanded* by the examining boards was low; the boards of authority in this country had been strangely neglectful to provide for good public instruction; "and I must say," added Sir B. Brodie, "that those who framed the Apothecaries' Act did their best to retard the improvement of medical practitioners in the way of a good general education." In speaking, as he had done, of *gentlemen*, Sir Benjamin was earnest that it should be correctly understood what was

implied in that term—not those of conspicuous dress and showy equipages, and dissipating their time in empty pursuits, but those who, though they might be far less favoured by worldly fortune than the foregoing, performed the duties of their relations in life with honour, were courteous in their bearing, and always kept in view the great maxim of our religious faith, "do as you would be done by." Sir B. Brodie spoke in praise of humility, and he averred that the steady cultivator of science and the unwearied searcher after truth would, in the end, infallibly distance, in the advantages he might possess, the shallow vapourer or showman, or the man who looked only to immediate profit in his pursuits, though these might, for a time, seem to be the most successful. He eulogised the courageous and indomitable spirit that rather *met* difficulties to overcome them, than slunk out of the way to let them pass; and he wound up a very wholesome, sound, and sensible address to students, with a really eloquent peroration, at the end of which he left the theatre during prolonged applause.

SUDDEN INSENSIBILITY
FOLLOWING THE
DRINKING OF A COLD FLUID.

To the Editor of THE LANCET.

SIR,—ON Sunday, Aug. 13, the weather being very hot and sultry, I was called, about nine o'clock, a.m., to a little child, Miss F., nine years of age, of a lymphatic temperament, with light hair and eyes, fair skin, and plump. I found that about half an hour previously she had walked from her bed, whilst hot, to the washhand-stand, and drank off a coffee-cupful of cold water; she immediately fell to the ground in a state of insensibility. She was placed in bed, and before I saw her her father had administered a small quantity of whiskey and water. On my arrival I found the surface of the body cold, pulse very feeble, pupils unaffected by light, and the patient perfectly unconscious and insensible. I ordered blankets to be placed over her and two tablespoonfuls of the following mixture to be taken immediately:—

℞ *Compound spirit of ammonia,*
Compound spirit of lavender, of each, half an ounce;
Camphor mixture, six ounces. Mix.

Half an hour afterwards I saw her, in consultation with my friend Dr. W. V. Pettigrew. The pulse had then risen, and was full; surface of the skin increased considerably in temperature, with the exception of the lower extremities, which were cold; her eyes were widely open, the pupils fully dilated and insensible to the stimulus of light. The child was still perfectly unconscious of those around her, and did not evince the slightest feeling when pinched or moved about. There were, also, every now and then, convulsive twitches about the corners of the mouth. The patient was immediately bled to about eight ounces, the quantity being regulated by the pulse and symptoms. As soon as the blood flowed an alteration took place, and the patient sighed deeply two or three times and closed her eyelids, and from that time was conscious of pain when pinched or disturbed, but still was unable to recognise those around her. In addition to the above treatment mustard poultices were applied to the feet and an enema of olive oil and turpentine was administered; the room directed to be kept darkened, and if consciousness did not return in half an hour the patient was to be placed in a warm-bath, at the temperature of 98°.

At one o'clock, p.m., I again saw her, with Dr. Pettigrew. The enema had been administered with effect, clearing the lower bowels. The child had been placed in the bath; was in a good perspiration; more susceptible of disturbance and external impressions; and the pulse was soft. The spine was now well rubbed along its entire length with an embrocation consisting of

℞ *Croton oil,* three drops;
Solution of ammonia, half an ounce.
Mix.

Great redness of the skin was soon observed, and the child writhed during its application. Six grains of calomel were placed upon the tongue.

An hour and a half afterwards I found the child had rallied. She had spoken, and knew those who were about her; there, however, the narration of the case must cease, for I ascertained that since my last visit a medical man in this neighbourhood, who visits patients at a very reduced fee, had seen the patient in my absence, without any knowledge on my part, or of the remedies that had been prescribed, leaving a prescription, however, for me to make up. As I could not either do myself the injustice to meet this person, or insult my brother medical practitioners by doing that which they would not condescend to do, I immediately withdrew from attendance upon the case, having, however, had the satisfaction of restoring the patient. I am, Sir, your obedient servant,

ARTHUR T. CRIDLAND, M.R.C.S.
Oakley-square, Chelsea,
Sept. 19, 1843.

VASALVA and MORGAGNI objected to opiates in insanity, and daily experience confirms their objections. Diet, employment, exercise, are the true remedies for sleeplessness; tepid or cold-baths induce sleep, and no bad results ever followed their use.—*Dr. Sutherland.*

WELL-MARKED PLEURITIS.

To the Editor of THE LANCET.

SIR,—I beg to send the enclosed case for insertion in your valuable and enlightened periodical; and am, Sir, your obedient servant,

ROBERT S. NIGHTINGALE, M.R.C.S.,
Late Surgeon to the Liverpool Eastern Dispensary.

Sept. 29, 1843.

On the 27th of last July I was requested to attend —— Callender, ætat. 36, a stout athletic man, accustomed to intemperance, and latterly subject to occasional fits of an apoplectic tendency, in one of which I attended him a fortnight previously to the present attack. On the present occasion the predisposing cause appeared to have been an exposure to cold, from his having inadvertently neglected the use of his flannel-waistcoat. The following characteristic symptoms of an attack of acute pleuritis were strongly marked: dry cough, accompanied with an excruciating pain in the left side (the seat of the attack); much pyrexia; intense difficulty of breathing; decubitus on the affected side; hard, frequent, incompressible pulse; slight lividity of countenance. The pain was so acute that it appeared almost completely to restrain the motion of the ribs on either side, whereby respiration was almost exclusively carried on by the diaphragm. I had before seen many cases of pleuritis, several of them (whilst attending the practice of the Meath Hospital and County of Dublin Infirmary) under the care of that accomplished stethoscopist and distinguished pathologist, Dr. William Stokes, and carefully noticed the various stethoscopic phenomena which each particular case presented; but never do I remember a case in which the râle crèpitant was so perfectly and clearly developed as in the present, for without the use of the stethoscope, or even without closely approximating the patient, I distinguished its harsh, grating sound almost immediately on entering the chamber. Promptitude in the application of remedies was evidently called for if benefit was to be derived from them; I, therefore, immediately bled my patient to approaching syncope, which did not manifest itself until thirty ounces had been withdrawn; his bowels were then well acted on by a brisk cathartic, and I ordered him the following pills, with a view of pushing them to decided salivation:—

℞ *Protochloride of mercury*, thirty-six grains;
Potassio-tartrate of antimony, three grains;
Powdered opium, four grains;
Softened extract of liquorice, as much as sufficient.

Mix for twelve pills; one to be taken every three hours. Cupping to sixteen ounces over the affected side, upon which a large blister was to be afterwards placed.

In the evening little or no pain was felt, and the other symptoms appeared somewhat relieved; blood highly buffed.

28. Passed a restless night; blister rose well; unable to lie on either side without producing a paroxysm of coughing, which he endeavours as much as possible to restrain, owing to the increase of pain which is thereby occasioned; pulse still hard and frequent, though somewhat wiry; a scanty, viscid expectoration, not tinged with blood, now accompanies the cough. Repeat bleeding to sixteen ounces, which he bore well. Continue medicines.

On my paying my evening visit I found him somewhat more comfortable; much more free from pain, though the least motion induced the cough, whereby the pain was increased; does not feel the slightest inclination for sleep. Ordered an anodyne draught, containing eighty minims of tincture of opium.

29. Passed a bad night; slept, or rather dozed, for about two hours this morning, the draught having rather disturbed the cerebrum than produced any beneficial soporific effect; respiration not so short and hurried; pulse softer and lower; does not complain of much pain now. Ordered to continue the calomel and opium pills.

In the evening ordered—

℞ *Extract of hemlock*, eight grains;
Acetate of morphia, a quarter of a grain. Mix, for a dose.

30. Passed a tolerable night; gums slightly affected; and the symptoms are evidently changing, and appear to be merging into those of bronchitis, and considerable frothy mucous expectoration now accompanies the cough. Ordered to discontinue the calomel and opium pills.

℞ *Potassio-tartrate of antimony*, three grains;
Ammoniacum mixture, eight ounces. Mix. Two tablespoonfuls to be taken three times a-day. Repeat the anodyne pills at night.

31. Passed a good night. There now exists a mucous where the crepitating râle was so distinctly marked. Repeat the mixture. Apply tartarised antimony ointment to the chest.

Aug. 1. All the symptoms appear to have run into those of bronchitis. In the course of ten days the patient was so far recovered as to be enabled to take a little exercise, and is now perfectly restored, the treatment latterly adopted being such as the various symptoms of bronchitis require, and which it would be useless now to describe; no traces of effusion remain.

CASES ILLUSTRATING THE

EFFECTS OF BELLADONNA IN NEURALGIA.

By G. N. DANGERFIELD, M.D., M.R.C.S.L., Newport.

THE following notes of two cases tend to confirm the announcements of Dr. Hutchinson on the use of belladonna in neuralgic affections of the face, in THE LANCET for Sept., 1843, p. 830, and to confirm its efficacy in certain cases of that distressing malady.

CASE 1.—J. W., ætat. 40, labourer, dark complexion, of spare and rather intemperate habits, had suffered from severe occasional pain over right lower jaw and right temple for upwards of six weeks previous to July 1, 1837, at which time he applied to me. Complained of severe neuralgic pain in the face, as above stated, coming on *gradually* at irregular intervals, and lasting several hours at a time; considerable nausea; tongue coated with brown fur; bowels disordered. Considering the overloaded state of the alimentary canal the cause of *pain*, I ordered an emetic and afterwards croton oil.

July 2. No relief; pain more constant.

3. Violent paroxysm of pain came on this morning. Ordered half a grain of extract of belladonna every two hours until relieved. The third dose produced giddiness, dimness of sight, &c.; the pain was instantly relieved.

4. No pain of consequence. Ordered not to repeat the belladonna unless the pain was very severe.

5. Rather more pain, of a lancinating kind, and in different parts of the face. To repeat the dose of extract every four hours until relieved. Two doses were taken and the pain left.

10. Has had no pain since last report; is weak; in other respects quite well.

CASE 2.—Mr. D., ætat. 23, pallid countenance, susceptible of cold, but otherwise enjoys general good health, has had severe darting neuralgic pains in the course of the left supra-orbital nerve during the last two months. For the last two days the pain has come on much more severe than usually, accompanied by dimness of sight on the affected side.

Sept. 5, 1837. This morning pain came on at seven o'clock in a very severe form. Ordered one grain of extract of belladonna, to be repeated in three hours if not relieved.

6. Has taken the belladonna; very much relieved; has no pain in the course of the same nerve; suffering slight dizziness from the effects of the medicine; slight pain in the right side of the face. To repeat one grain of the extract in the evening.

7. Quite free from pain; in other respects much better.

12. Has taken a dose of aperient medicine; suffers no pain, and feels quite well.

Remarks.—Thus we see a confirmation of the observations made at the General Hospital, Nottingham, and I feel convinced that, where the cases are well selected, the greatest benefit may be expected from the use of belladonna in certain neuralgic affections.

While on the subject of belladonna, allow me to call the attention of the profession to its use in frictions around the orbit, in combination with mercurial ointment, in cases of rheumatic ophthalmia, iritis, or any other inflammation of the eye. The remedy, I know, is in general use, but I have found, from personal experience, that to reap the full benefit, it should be well rubbed into the part every two hours, washing the former application off and rubbing the part well with a piece of flannel, before the next application of the ointment; by this means an erythematous eruption is soon produced, absorption is much more rapid, and the effect is much quicker and more efficacious than when applied in the ordinary manner.

Newport, Monmouthshire,
Sept. 28, 1843.

TREATMENT OF PURPURA.—Prof. Sacchero, of Turin, advises as follows:—Considering the pathological condition in purpura to consist in an undue excitement of the venous system, which in severe cases may proceed to phlebitis,—if fever be present the patient ought to be bled frequently, in proportion to the toleration of bleeding by the system. If visceral congestion be suspected, apply leeches to the anus. Administer agents tending directly to depress the circulation, as digitalis, aconite, lauro-cerasus, bitter almonds, ergot of rye, tartar emetic, saline purgatives, or calomel (if the three last be not contra-indicated by complications of gastritis or gastro-enteritis). Lemonade and other vegetable drinks to be used. If the affection were of a periodic nature, sulphate of quinine should be employed. Should debility, or an anæmic state ensue, full diet, with wine and milk, "to renew the elements of blood in the system," are admissible.

LACERATED WOUNDS.—Hæmorrhage does not generally follow these, coagulation having soon taken place in the orifices of the injured blood-vessels. A boy was drawn by a machine-rope to a ceiling. His arm was torn off into another apartment, and his body fell to the ground. He recovered! There was no bleeding. As nerves have been injured, guard against tetanus. In old people erysipelas may follow. This kind of wound is unfavourable for adhesion; attempt it, notwithstanding, by the first intention. Treat a lacerated wound as you would an incised wound. But against threatened tetanus or erysipelas use tepid anodyne lotions instead of the balsam dressing and cold application.—*Sir Charles Bell.*

THE LANCET.

London, Saturday, October 7, 1843.

The profession, throughout the empire, will hear with the utmost astonishment, indignation, and disgust, that the answer to the petitions which they have, of late years, presented to the Legislature for an effectual reformation of the laws relating to the practice of medicine in this country, have been responded to by the Government by the grant of A NEW CHARTER TO THE COLLEGE OF SURGEONS OF LONDON!—that institution which, of all others, has been the most denounced for its unjust and atrocious conduct towards the members of its own body.

Next week we shall present a copy of this charter to the indignant gaze of our readers.

And here we ask, will the profession, smarting under the annoyance which this new act of injury will produce, now act with unanimity and zeal for the protection of their own interests and the vindication of their own rights? Will they *now combine* and bring all their moral force and intelligence to bear with due weight upon the proceedings of the Legislature? It is plain that their condition is *worse than hopeless* with reference to *the executive Government*. There cannot be the slightest chance of success on their behalf excepting through some measure which may be adopted *by Parliament*; and Parliament cannot act in the right direction unless it be stimulated, excited, and influenced by *the members of the medical profession themselves*. This *new* insult, we do not hesitate to declare, owes its *origin*, like other similar acts of atrocity, to a want of UNION, an absence of UNITY OF ACTION, amongst the members of the professional body. It has become, in fact, an interesting question to the casuist, to ascertain what weight of injury and wrong the profession will endure before its members will arise, in their true majesty and might, for the purpose of obtaining and protecting their own rights and privileges.

A MEETING of the ACADEMIE DE MÉDECINE, of Paris, was lately rendered particularly interesting by the reading, by M. PARISET and M. ROYER-COLLARD, on their return from Bourg, of the speeches which those learned gentlemen had delivered at the installation of the statue of BICHAT. Those two physicians appeared at Bourg as the representatives of the Academy and the Faculty of Medecine. Bourg is the native town of XAVIER BICHAT, whose townsmen, though rather tardily, have, as we lately mentioned in THE LANCET, recently honoured the memory of their illustrious countryman by the erection of a bronze statue, the ceremonies of the installation having taken place with great pomp.

It is now forty years since BICHAT died; yet he still lives among his countrymen—though not "in the flesh,"—for his works are in every hand and his name is in every mouth in France. Singularly enough, however different may have been the ideas and the doctrines which have swayed the medical schools of Paris at different periods since his death, the admiration felt in them for BICHAT has always been the same. The mode of its expression, only, has been modified. The reason, no doubt, is that his works were the result of *observation*, prosecuted under the influence of patient and acute powers of analysis. Thus they have stood not only the test of time, but even of those abominable enemies of impartial judgment, sectarian feuds.

The speeches of the eloquent Secretary of the Academy, and of the learned Professor, afford an illustration of this assertion. They are equally warm in their praises of BICHAT, although M. ROYER-COLLARD protests against a portion of his doctrines. The oration of M. PARISET,—so well known in France for the grace, the purity, and the energy with which he eulogises his departed colleagues,—is one unqualified panegyric of BICHAT, whom he admires without restriction. A pupil, himself, of the personal friends and disciples of the great man, his esteem of BICHAT is unbounded. More of a pathologist than an anatomist or a physio-

logist, what M. PARISET admires above all, in BICHAT, are the doctrines relating to vitality which BICHAT defended and promulgated. With M. PARISET the principal claim of BICHAT to fame consists in his having called in aid of his anatomical and physiological researches the *vitalisme* of HIPPOCRATES.

M. ROYER-COLLARD represents other opinions. He is a younger man, and belongs, in part, to the physiological school, to which the very name of *vitalisme* is a bugbear. Hence ROYER-COLLARD's praise is qualified. In *his* eyes the right of BICHAT to a place of eminence rests solely on his inspections in anatomy and physiology, wailing over the departed individual as a fallen man when, leaving the department of *facts*, he steps into the neighbouring region of *vitalisme*.

Whichsoever view is right, every one must join in the praises bestowed on BICHAT as a great anatomical physician—one of the very first rank amongst those who, by their labours in the dead-house, have added to our knowledge of pathology within the last half-century—to say nothing of his numerous contributions to other branches of his art. His career was so short as, by its very brevity, to become one of the most singular features in his history, making it wonderful that he could achieve so much. The erection of the statue at Bourg is only the payment of a debt which his townsmen should have been the first (as they were, however, dilatorily) to redeem. Before that, in musing over his tomb, it was impossible to avoid accusing his countrymen of ingratitude to one whom they affected to prize so much. Few, indeed,—even among those for whom he had laboured—know where he lies. The present dissection-amphitheatre of the Paris hospitals was erected, some years back, on the site of a cemetery named Clamart. A portion of the cemetery not being wanted for the purposes of the dissection-school, remained unchanged. There, among the unknown many, lies the body of XAVIER BICHAT, beneath a flat stone, on which is rudely carved his name, having beside it an inscription indicating that the memorial, simple as it is, was thus placed by his pupils and colleagues. The spot is so grown over by weeds and wild-flowers that, amidst the labyrinth of neglected gravestones and humble la^{c}k crosses, it requires one who is familiar with the spot to find a tomb that is in no prominent respect distinguishable from the rest. To this mention of the poverty of his local monument we may add that the riches of his pocket were not greater than those of his grave. He lived solely by means of his literary and scientific exertions—"from day to day," as the saying is among the poor,—and died without leaving wherewith to defray his funeral costs.

THE COURT OF CASSATION, of Paris, has recently come to a decision on a case which has excited much interest among the faculty in France, from its declaration on a point involving the trustiness and confidence of surgeons at accouchements. By the laws of that country the registration of a birth (at the mayoralty of the parish in which the child is born) is compelled to be made within three days of the delivery, under terror of a severe penalty for the omission. The law states that the declaration must be made by those persons who were present at the birth. The obligation, therefore, necessarily falls on the accoucheur, where one was in attendance. In December, 1842, Dr. MALLET, of La Rochelle, delivered a lady who had placed herself under his care on the condition of *secrecy*, and two days afterwards presented the child to the registrar of the town, merely giving the *date*, the *place of birth*, and some *names* under which the child was to be inscribed. He was summoned, however, to give in, also, the name of *the mother*, but this he refused to present, on the plea that it had been entrusted to him under a promise of secrecy, and that the article, 378, of the Penal Code decrees "that all medical men or midwives "who reveal secrets which have been en- "trusted to them in their professional capa- "city, shall be punished." Thereupon the civil authorities of La Rochelle brought an action against him, on the ground that the declaration of the birth of the child was legally imperative on the accoucheur, and such other person or persons as were present at the delivery. But the Tribunal of Saintes, before which the case was brought, acquitted Dr. MALLET, on the ground that by presenting

the child at the register-office, accompanied by two witnesses, he had satisfied the exigencies of the law, and that he really was warranted in refusing to name the mother, by the article of the Code that he had cited, which enjoins secrecy on those who legally exercise the profession of medicine, when such secrecy *does not threaten or endanger the security of the public.*

The Attorney-General of Saintes was not satisfied with this decision; so he appealed to the Court of Cassation of Paris. But that court, after a lengthened debate, has confirmed the decision of the provincial tribunal; and on the same grounds, adding that, in the opinion of the court, when the parent or parents of a newly-born child wish to conceal the origin of their offspring, the civil authorities have no right to demand and enforce an announcement on that point, such revelations often being calculated to cause unhappiness and shame in families, and disorder and scandal in society, at the same time that the declaration in question is not necessary to ensure the protection of the law to the child whose birth is declared, even although it is offered to be registered under an assumed and not the maternal or family name.

A fraction of the medical men in France, numbering in its ranks many of the most enlightened and distinguished men in the profession, has latterly been endeavouring to gain the ear of the Government in order to avert the revival of an odious law affecting medical practitioners, namely, the re-imposition of the *patente*, a mercantile licence from the Government, which, over and above their diploma of proficiency, they must now again obtain to be allowed to practise. We have hitherto abstained from noticing the subject, under the expectation that before this time some announcement would have appeared in the French medical prints to the effect that the patent, so far as it was to affect medical men, had been rescinded. But such has not been the case. Disunion in the profession in France has seemed to be the main cause which has nullified the efforts of the parties alluded to, and has strengthened the opposition of the Government to a reform which the minister hardly durst have opposed in the face of a firmly united body. As long back as May last a committee of nine members was appointed by the Academy of Medicine to take into consideration the propriety of the Academy's joining a large number of the practitioners throughout France, and the various medical societies, in asking for the abolition of the medical patent, an impost which, though not repealed, had, in a great measure, fallen into desuetude. Of these nine members, seven met to perform their duty. But of the seven, only four members voted that the Academy ought to interfere in the matter; the rest were for letting the whole affair pass in silence, and so reducing the Academy from the high station that such a body ought to occupy, as the champion of the profession, to a mere obsequious body, altogether subservient to the will of an arbitrary statesman. It is amusing, if not vexing, to notice the *reasons* (save the mark!) which were alleged by the minority for their opposition to the petition proposed. Among others was "the length of time necessary for the preparation of the Academy's remonstrance, it being then full time that all such petitions should be ready for laying before the Chamber of Deputies;" and that the dignity of the Academy would be soiled should its petition be not weighty enough to avert the proposed measure; with such other cobweb-excuses to hide a hatred of the plan. The most notable opponent of the proposition was M. Royer-Collard, who, in a long and rambling speech to the Academy, after the report had been read, declared that he "felt himself in no respect humiliated by the patent!" Of course not; for the "Gazette des Hôpitaux" is our authority for saying that M. Royer-Collard, who receives ten thousand francs per annum from the state, by some means *pays no patent at all.* How monstrously generous one can be when the sacrifice is not one's own! But hear him in continuation:—"When I see deputies! peers of France!! ministers!!! paying the tax of the patent" (he means a *tallow-chandler*, a *shawl merchant*, and a *clothier*, who sit in either chamber, but who pay the impost by reason of the trades they drive out of, and not within, its walls), when I see all these, &c." Well, what then? Why, "my *amour propre* as a medical man is far from being wounded by my being ranked with such eminent individuals." His heated organ of veneration should excite him to exclaim, *Infelix puer, et impar congressûs Achillis!* "I consider it to be a pretension—illiberal, aristocratic, intolerable,—to desire to derive a lustre by the sole reason of belonging to a certain profession, now that all the world looks only to personal merit as entitling its possessor to take his station in the social scale. I hold that the patent, far from degrading, raises us, by giving us those political rights to which we ought all to aspire, and I think that the patent is the sole medium which we have—the great majority of us—by which to acquire these." In a strain of sophistry worthy to follow the above, M. Chervin addressed

the assembly:—"The suppression of the patent (he said) would be a privilege; we aspire, on the contrary, to the destruction of all privileges." M. Londe tripped up this speaker by showing that the same justice and equality in the eye of the law which had been so loudly invoked in favour of the patent, could be invoked also in opposition to it. For medicine is neither a trade nor an agency, or if it were either, the diploma of a physician is *his patent*, and it is obviously unfair to saddle him with an additional impost, one which is not imposed on lawyers, teachers, literary men, artists, actors, engineers, or men of any other "professional" calling. M. Velpeau urged that the very course which ought to be pursued by his *confreres* of the committee had actually been followed with perfect success in Belgium, where "the "Academy of Medicine having addressed a "petition to the Government for the abolition "of the patent, as regarded medical practi- "tioners, the government *had acceded to the "demand.*" But in spite of the arguments adduced for a vigorous remonstrance to the minister, the French Academy contented itself with a miserable half-measure, and the appeal of the Academy was ruined by the lukewarm manner in which it was carried out. Had the French minister paid a witch for a wind he could not have been wafted along more to his satisfaction in the affair of the patent, for the reluctant opposition of the "heads" of the profession became to him an encouragement in his course.

Curious to know how the matter ended, having waited some time, during which the subject seemed to be forgotten in the French journals, we suddenly found the following anecdote in the "Gazette des Hôpitaux" of the current week. M. Poulet du Parc had exercised the duties of physician to the police of Nantes ever since 1812, but during the whole period had performed those duties *gratuitously*, in return for which he was exempted by the council of the department from payment of the patent. But this year the impost is renewed, and the venerable practitioner, now seventy years old and more, and who had *given up all practice, excepting gratuitous attendance on the police*, has been placed again on the list of practitioners liable to the tax!

The "heads of the profession" on the other side of the channel, in this affair have been tolerably good imitators of those in England, in helping to reduce medicine to the level of a trade. The French Academy, as a body (for there are in it honourable exceptions), have acted in a chicken-hearted, truckling, sycophantic manner. In our own country, however, there is one difference between them and their analogues. Our governing medical bodies here would promptly beard any minister of state who interfered with the privileges of their little communities. No act could be too saucy for the English councils which saw occasion to memorialise an intruding government on their own behalf. They might aid the minister fast enough to place new fetters on the great body of the profession; but their boldness would form a remarkable contrast to that of the French Academy if he attempted to reduce their powers or immunities. Instead of humbly putting their tails between their legs, like the academicians, they would vote a flea in his ear in pretty quick time. Courage in a bad cause has no merit in its composition, or we might prefer the hard English brass to the soft French clay.

Du Traitement de la Phthisie Pulmonaire, &c. (On the Treatment of Pulmonary Phthisis.) By E. S. Pereyra, Physician of the Hôpital St. Andre, Bordeaux. Paris: Baillière. 8vo. pp. 84.

M. Pereyra, whose contributions to medical science have been of late frequently noticed in this Journal, here gives an account of the success he has derived in his practice at the above hospital from the treatment of phthisical cases with cod-liver oil, to which remedy he gives a decided preference over other substances containing iodine, as being destitute of the irritant qualities displayed by most of these. In the progress of the pamphlet a circumstantial account of the mode of obtaining this oil, and of the relative value of different kinds, is given, which may be interesting to some of our readers:—

"Cod-liver oil, as found in the shops, varies considerably in colour, smell, and taste; being sometimes met with clear or straw-coloured, at other times of a deep yellow or even reddish tinge.....On board of the fishing vessels it is obtained by allowing the livers of the fish thrown into large butts as the fish are cleaned for salting, to ferment when exposed to the air. When the temperature suits, five or six days are sufficient for the production of the oil, which is found floating on the surface of the matters in the casks, whence it is drawn off through spigot-holes placed at different heights. The oil first obtained is nearly colourless, but as fermentation proceeds (and it is perpetual, fresh livers being continually thrown upon those already present), it acquires a yellowish colour, which gradually deepens into red. The oil which has rested longest in contact with the decaying substances becomes so impregnated with the putrid gases produced in the fermenting process as to be too repulsive for internal administration.

"There are, then, in consequence three sorts of cod-liver oil; the first, or that obtained at the commencement of the fishing season, and which is nearly destitute of colour; the second, which is drawn off after the livers have been in fermentation for some

days, and which is of a reddish-yellow colour; and the third, which is dark, and having been constantly in contact with the solid animal matters, is intermixed with the debris of these and sanguinolent fluids, and is only fit for the use of fellmongers.

"The chemical examination of each of these kinds made by M. Fauré, has shown that the most deeply coloured oil is that which contains the most iodine; the colourless oil presents only traces of that substance. It would seem, indeed, that cod-liver oil owes its colour in part to the iodine it contains, as a foreign body. Under the putrefactive fermentation submitted to by the matters yielding the oil, the iodine which these contain is separated from its previous combinations to enter into new ones, of which ammonia seems to be the basis; and by the help of this alkali it is that iodine enters into an union with the oil. The *coloured* cod-liver oil, when deprived of its putrid smell by the process indicated,* has certainly a more active medicinal quality than the colourless kind, and it is probably to this difference that the differences of the results obtained by practitioners in the use of cod-liver oil are attributable."—P. 13-17.

M. Pereyra's picture of his success with this remedy is of a flattering nature. Of 362 patients, with confirmed phthisis, entered under his care in the hospital from the 1st of August, 1838, to the 1st of March, 1841, 243 were discharged, 110 had died, and 7 were remaining under treatment. We learn that among those who had died only a few had been placed under the influence of the oil; the rest were in too advanced a stage to admit of any hope beyond that of palliation. Of the number recorded as discharged, M. Pereyra says, "I do not pretend to say that they have all been cured. About twenty, chiefly females, have refused to continue the remedy; and several others have only left in a slightly bettered condition. But I can aver that in a full half of the number the condition of the patient has been decidedly bettered; and the amelioration has been permanent in some during three years and a half that have since elapsed."—P. 29. And this is saying a great deal. When we contrast the success which is thus asserted to have followed M. Pereyra's employment of the oil with the failure that has attended its use in other hands, we may fairly inquire whether locality has anything to do with the matter. The antagonism of phthisis and intermittent fever has been a subject lately attracting much of the attention of French physicians (see ante p. 782), and on Dr. Pereyra's own showing, intermittent fevers are so common in Bordeaux and its vicinity that they constitute more than one-fourth of all the diseases occurring there. Our author obviously does not accede the existence of the repeated antagonism above alluded to; he says, on the contrary (p. 39), that intermittent fever appears to forward the deposition of tuberculous matter, and he apparently attributes the cures or improvement of consumptive cases under his care mainly to his favourite drug (of which he orders in general a tablespoonful three times a-day), and little, if at all, to any influence of the atmosphere or the geographical position of Bordeaux. Certainly, enough has been said in favour of cod-liver oil to warrant its receiving a fair trial in this country, though we have no sanguine hopes of its good effects. In the present state of our knowledge respecting phthisis the treatment is yet much like a game at hazard. At one time tar, iron, and tartar-emetic, are uppermost among the remedies. "Try your luck again, gentlemen!" Another revolution, and naphtha, iodine, and cod-liver oil are in the ascendant. Meanwhile, in the long run, the *bank*, a fair type of death, gains the all stakes, and the cure of consumption is as much as ever a losing game.

* M. Fauré's process of clarification is to boil the oil for about an hour, and then filter it; after which it possesses a deep yellow tinge, a fishy but not fetid smell, and an insipid (*fade*) taste; it is clear and transparent, and not repulsive.

MEDICAL SOCIETY OF LONDON.

Monday, October 2, 1843.

Mr. PILCHER, President.

SUPPURATION IN THE CAVITY OF THE UTERUS.

DR. WALLER exhibited the uterus of a lady, sixty-nine years of age, and married, of whom he related the following particulars:—She had borne several children. She had of late years been subject to a vaginal discharge, which was accompanied by so little uneasiness or pain that these scarcely attracted her attention. On one occasion, however, as there was a considerable increase in the uneasy sensations she had experienced, she consulted Sir C. Clarke, who pronounced the discharge to be dependent on a disordered condition of the lining membrane of the womb, and did not consider it of much importance. Three months since Dr. Waller was called to see this patient. He then found her labouring under severe pain in the bladder, accompanied by a

"bearing-down" sensation, the urine being evacuated frequently, in small quantities and with great difficulty. The bowels were also acted upon with much difficulty. On examination the sacrum was found to be blocked up by a tumour, which was considered, from its hardness, to be a fibro-cartilaginous tumour of the uterus, and as there was a partial retroversion of that organ it was supposed that the difficulty in evacuating the bladder resulted from pressure. As the chief symptoms were entirely referrible to the bladder, the treatment was directed to relieve that particular viscus. Leeches and fomentations were applied, calomel and opium were administered, laxatives were employed, and, in short, symptoms were combatted as they presented themselves. In addition to the symptoms enumerated there was occasional slight purulent discharges from the uterus, which were considered to be the result of inflammation and suppuration of the glands round the cervix uteri. The os uteri was open, and from the external surface projected a fungous growth, which broke down readily under the pressure of the finger, which on being withdrawn was found to be covered with blood. There were also occasional discharges of a watery fluid from this fungus. In addition, then, to the fibrous tumour of the posterior part of the uterus it was thought that that organ was also affected with a cauliflower excrescence. This was the diagnosis. The bladder symptoms were so much relieved by the means employed that the patient, at the end of three weeks, was enabled to walk out. Shortly after this, however, all the bladder symptoms increased, and as the second application of leeches was followed by much depression they were not again employed. The symptoms gradually increased in severity, and for the last seven weeks of her life the patient kept her bed. The catheter was on one occasion introduced, and upwards of twenty ounces of urine drawn off, although she had scarcely ever before made more than eight ounces in the twenty-four hours. Ever after this she required the use of the catheter until within three days of her death, when all at once a remarkable change in the case occurred. Suddenly two quarts of most offensive and fœtid matter were discharged from the uterus, the bulk of which instantly decreased in size,—the urine afterwards came away involuntarily. The fæces were still passed with difficulty. The patient rapidly sank, and died in thirty-six hours. He (Dr. Waller) had not himself seen the pus thus evacuated, as it had been removed from the room in consequence of its extreme offensiveness. He had every reason, however, to believe that the quantity had been very little, if at all, exaggerated. On examination after death the uterine cavity was found to be much enlarged, and the whole of the internal membrane in a sphacelated condition; the projection, posteriorly, was found to have depended on enlargement of the organ. The mucous membrane of the bladder was in the same condition. It would appear, then, that there had been a very large accumulation of pus in the cavity of the uterus, which had become thereby much distended. It was difficult to understand how such a collection could have taken place, though perhaps the retroversion might in some way account for it. There was not, however, any false membrane or other barrier over the os uteri. The uterus was as large as one in a woman delivered about forty-eight hours previously. The case was curious, and such as the speaker had never met with before. The appearances did not accord with the diagnosis, but had we have known more accurately the real condition of parts, could we have effectually relieved it? He thought not.

Some conversation followed, but chiefly in the way of question and answer.

ENGLISH CHOLERA.

Dr. Clutterbuck detailed some particulars of a very severe case of English cholera occurring in a young lady, who was suddenly seized with excessive vomiting and purging at about four o'clock, a.m., followed by great collapse, and a perfectly pallid and cold state of the entire body, with a scarcely perceptible pulse, universal cramp, and the peculiar rice-water dejections commonly observed in Asiatic cholera. A variety of such remedies as are usual on these occasions, cordials and calomel, for instance, were administered and immediately rejected, and then Dr. Clutterbuck was called in. No time was to be lost, but the family medical man lived at some distance, so the "remedies" nearest at hand, consisting of brandy and water, and Battley's liquor opii, were at once administered. Of the first, about two teaspoonfuls, with just sufficient water to make it warm, were given, with six drops of the latter, about every ten minutes. The first dose was rejected, the second and four subsequent ones were retained. The stomach became quieted, comfortable warmth returned, the patient fell asleep, and awoke quite well, and has so remained. In addition to this the patient only took a teaspoonful of water-ice every few minutes, for which she had a great desire, and the swallowing which appeared to afford her much satisfaction. He (Dr. Clutterbuck) attributed no remedial power to the ice, which was taken in small quantities.

Dr. Risdon Bennett said that some years ago a physician in Germany had alleged that he had cured cholera by the employment of ice alone, which soon removed all the urgent symptoms.

DISCIPLES OF DR. ELLIOTSON.

To the Editor of THE LANCET.

SIR,—It may not be uninteresting to you (as the individual who first publicly exposed the jugglery of mesmerism in London) to have some information respecting the position of that amusing *science* in the country. The inclosed bill conveys to you such information. The lecturer is a working gardener. I beg to ask, Sir, if Dr. Elliotson and the other medical men who have adopted these exhibitions of mesmerism have no redress against intrusion like this, or must they quietly submit to be driven off the field by these minor and unlicensed performers? Your obedient servant,

ANTI-HUMBUG.

Leamington, Sept. 23, 1843.

"MESMERISM EXTRAORDINARY!—At particular desire W. Whiddon will give one more experimental lecture at the Apollo-room, Clemens-street, on Tuesday evening, September 26th. No one is prepared to deny but that this extraordinary phenomena is calculated to work a material change, both physically and spiritually. The arrangements of the organs of the brain will be manifested; also the effects of opposing organs, such as benevolence against acquisitiveness; conscientiousness against theft; veneration against pride; cautiousness against destructiveness. Also, Spencer Hall's new organs, such as grief, laughter, love of pets, &c. Catalepsy, or stiffening of the limbs at will, in any posture the audience may desire. Mesmerising and de-mesmerising, with several other extraordinary effects, the cause of which no one is yet acquainted with. Front seats, 6d; back ditto, 3d."

LONDON HOSPITAL.

RETENTION OF URINE. PARALYSIS OF THE BLADDER.

SIMONS, a Jew, ætat. 52, fruit-dealer, of bilious temperament, admitted under Mr. Scott, Oct. 26, complaining of difficult micturition, the urine dribbling away for seven or eight minutes at short intervals, instead of being voided in a full stream. This inconvenience had been gradually on the increase for a month or two, and was accompanied with general irritability, loss of appetite, and wasting.

A catheter was introduced immediately after the patient had passed as much urine as the natural efforts permitted, and imagined the bladder to be entirely empty. No less than eighty-four ounces of urine were withdrawn, mixed up with a small quantity of puriform mucus. On the following morning, and under the same circumstances, fifty-six ounces were drawn off. He was placed on full diet, a castor-oil purgative administered, and the catheter employed once daily from the 28th to the 31st, on which day twenty-nine ounces only were withdrawn. On the following day one-twelfth of a grain of strychnia was ordered to be taken three times a-day. After five doses he complained of involuntary spasm, particularly of the flexor muscles of the thigh and leg, the former being forcibly drawn towards the abdomen and the latter flexed on the thigh. He was troubled, also, with constriction of the fauces and grinding of the teeth. These symptoms commenced after the second dose. The medicine was omitted, and the spasm soon subsided, but re-appeared rapidly on the resumption of the strychnia on the 5th. It was discontinued, consequently, for four days, when the dose of it was diminished to one-sixteenth of a grain. One dose of it being sufficient to re-induce spasmodic action, it was again omitted, and owing to the subsequent exhaustion of the system, small doses of sesquicarbonate of ammonia in camphor mixture were administered every four hours.

Under the influence of the strychnia the bladder appeared to have regained in part its expulsive power, being capable of voiding all the urine with the exception of a few ounces. The quantity retained gradually increased as the spasmodic symptoms diminished. Owing, however, to the susceptibility of the patient for the remedy, with regard to its general action, and the great debility that resulted, it was deemed expedient to dispense with its use.

During the course of a month from this period emplastrum cantharidis was applied at intervals to the sacrum, and the bladder daily injected with warm water, which brought away a considerable quantity of mucus. Ammonia, quinine, and an occasional opiate, were given as circumstances directed. Marked benefit resulted from this treatment, the quantity of urine artificially withdrawn amounting on the average to about five ounces, the greatest being ten, and the smallest two ounces. The blistered surface, latterly, was kept open with ceratum cantharidis; but as the ointment produced considerable irritative fever, the occasional blistering was again had recourse to, great attention being at the same time directed to the state of the system in general, which varied materially.

In the beginning of February he became an out-patient, having become much improved in health, and capable of voiding (with the exception of three or four ounces), in a full current, the urine, which was comparatively free from mucus, and slightly acid.

RETENTION OF URINE. LARGE HYDATID BETWEEN THE RECTUM AND BLADDER.

Michael Driscoll, labourer, ætat. 52, admitted under Mr. Scott, Sept. 7, with reten-

tion of urine. States that he has lately experienced some difficulty in passing the urine, but that he had never suffered from entire incapability of voiding it until the period of admission; no catheter had ever been introduced; complains of great pain in the perineum; pulse quick; tongue dry; and he appeared to be in great suffering. A large-sized catheter was introduced into the bladder without difficulty, and about two pints of water were withdrawn. The prostate was found to be slightly enlarged. He was placed in a warm-bath, a mild purgative exhibited, and leeches were applied to the perineum. On the following morning he appeared relieved; the abdomen, however, was tympanitic, more particularly in the hypogastric region; the pain in the perineum had increased, and there existed tenderness on pressure. The catheter was again used, and the introduction of it caused much uneasiness. Fomentations were applied to the perineum and abdomen, and one grain of chloride of mercury and three grains of Dover's powder ordered every four hours.

On the 9th there existed great pain in the abdomen, arising, apparently, from augmented distention, it being more tympanitic; he could void no urine, and in the evening about two pints were drawn off without affording the slightest relief. A turpentine enema was used, which somewhat lessened the tenseness of the abdomen. For three days subsequent to this the urine occasionally dribbled away without his being conscious of it, and but a small quantity remained in the bladder, the catheter being frequently employed.

On the 17th the incontinence of urine continued, but larger quantities passed and with greater freedom. The entire abdomen was more tense, and he was considerably weakened by the supervention of diarrhœa, which yielded, on the following day, to the chalk mixture.

On the 21st the involuntary flow of urine still existed, and none was found to be retained. The tympanitis had increased, and the tongue was dry and brown. He was ordered to take ammonia and wine, and in the evening, as he appeared to be sinking, brandy was occasionally given. He lingered, however, till the 27th, and during the last twenty-four hours of his life no urine appeared to have been secreted, the tympanitic state of the abdomen persisting.

Inspection. — Abdomen enormously distended; on reflecting the integuments a small ventral hernia was found between the umbilicus and the sternum, in the course of the linea alba. On opening the cavity the intestines, particularly the transverse arch of the colon, were distended with gas; the peritoneal covering was inflamed, especially in the hypogastric region, in which much fibrin was effused, producing adhesion of the convolutions of the intestines. Bladder empty and contracted, and pushed forwards towards the pubis; between the bladder and the rectum a cyst was found, which burst in removing these organs from the body, and gave escape to more than a pint of clear fluid. It was found to be an hydatid cyst, somewhat larger than an ostrich-egg, pressing on the bladder in front and the rectum behind, and filling up the entire pelvis. The rectum was contracted in its diameter about two inches from the anus, and for about the same distance of its extent, the coats being much thickened, and containing between them another hydatid cyst of the size of a large walnut, unconnected with the larger. The inner surface of the bladder was very rugose, and the rugæ were exceedingly hard. The urethra was displaced, being thrust upwards and forwards towards the pubis. The iliac and lumbar glands were in a state of incipient suppuration. A third hydatid cyst was imbedded in the right lobe of the liver, extending upwards to the diaphragm and downwards to the right kidney and pancreas. This, on being opened, gave exit to more than three pints of yellow-coloured fluid, and contained two large hydatids, the one of them being of the size of an orange. A smaller cyst was connected with the pancreas and duodenum. The kidneys were soft and very vascular. The thoracic organs healthy.

NEWS OF THE WEEK.

King's College, Strand.—Mr. Partridge gave the introductory lecture at this institution on the 2nd inst. He had intended, he said, to review the discoveries which had been made in anatomy and physiology during the last fifty years, but in consequence of his being Dean of the Faculty of Medicine in the College, his time had been so much occupied that he must be content to give only an account of the progress and success of the college, which he accordingly did.

"A Series of Tables of the Elementary and Compound Bodies, systematically arranged, and adapted as Tables of Equivalents, or as Chemical Labels." Part I., quarto. Messrs. De la Rue, the celebrated card-makers, have just devoted the resources of their very superior printing establishment to the production of a work, prepared for the press by Messrs. Charles Button and Warren De la Rue, under the above title, which ought to reach the hands of every chemist and every dealer in articles of chemistry in the kingdom. By an excellent and bold arrangement of type, it places us in possession of the best dictionary of elementary and compound bodies that has ever been devised for studying, in connection with each other, the equivalents of those bodies. Or the trader may cut it into six

hundred parts, and use each part as a *label*. Chemical notation has become the very orthography and prosody of the science, and the greatest pains deserve to be taken to render its study easy and perfect. An instance of what the press can do to promote this object is afforded in the present publication, which we heartily hope may obtain a sale that will amply remunerate both the editors and printers for the trouble and cost bestowed upon it. The publishers are Messrs. Taylor and Walton, of Upper Gower-street, and other gentlemen.

THE EPIDEMIC DIARRHŒA.—Some conversation took place at the London Medical Society, on Monday evening last, on the epidemic bowel complaint which is at present prevailing amongst children. The chief peculiarity of the disease appears to consist in the circumstance that the symptoms of derangement of the bowels and stomach is followed by remittent fever, of a low kind. Mild doses of rhubarb and chalk, followed by gentle tonics, have been found the most efficacious means of combatting the affection. It has not been unusually fatal, although in some cases the patients have been worn out by the consecutive fever. A peculiarity has been observed in some cases, consisting in a condition of the gum very similar to the gangrena oris, but of a milder character. One of the speakers at the society, Dr. G. BIRD, stated that he had found this condition most readily relieved by two or three grain doses of chlorate of potash, given twice or thrice a day. Another member, Mr. DENDY, said that he had applied the tincture of iodine in the same kind of cases with the best results.

THE deaths in the metropolis for the week ending Sept. 23, reached 983, or 68 above the number in the previous week, 80 above the weekly average for the five past winters, and 135 above that for the five past summers. There was a decrease in the number of deaths from disease of the brain and nervous system to 156 cases (instead of 177, as in the week before); in those from diseases of the respiratory organs, 193 (210 in the week before), and in those from diseases of the organs of circulation, 14 (instead of 16, as in the previous week); but in all the other categories a marked increase of mortality is noticed. Deaths from diseases of the urinary organs, 5; from those of the joints, 9; from childbirth and uterine disease, 8; from natural decay, 55; from violence, &c., 31; from dropsy, cancer, and unspecified organic diseases, 100; from diseases of the digestive organs, 120 (98 in the preceding week); and from epidemic diseases, 283 (being 42 above the number in the week previous, and about 100 above the ordinary weekly average throughout the year). Of the last class, 33 deaths were caused by typhus, 28 by dysentery, and 59 by diarrhœa. The deaths from hooping-cough were 21, from measles, 38, and from scarlatina, 64; an increase over the preceding week in all three. Deaths from small-pox, 4.

PROFESSOR LIEBIG this week appears once more as an author, in an English dress, by the publication of his "Familiar Letters in Chemistry," at the house of Messrs. Taylor and Walton, revised for the press by Dr. John Gardner, of London. This circumstance preserves to the professor a copyright in England of another of his works. Though the "letters" present such additions to our knowledge of chemistry as the *most recent* investigations of Liebig will allow, yet the work was originally written only to excite attention to the subject, by placing before the public, in a small compass, the most striking facts which he could seize, to show the great interest and importance of the science; for, says he, in the preface, dated Giessen, August, 1843,—"I avow my conviction that ere long a knowledge of its principal truths will be expected as well in every educated man as in the physician and manufacturer, to whom that knowledge is already indispensable." In Germany the publication of his Letters, he avers, has led to the foundation of professorships at Göttingen and Wurtzburg, for the express purpose of following up "the new line of research in physiology, medicine, and agriculture, which may be said to be only just begun," and he very rightly considers that the collection will be acceptable in that other country which has so favourably received his former works. The volume does not attempt to *teach*, it only shows the reader what there is *to learn*; but that it does in so admirable a manner that the most exciting romance could not be laid aside half-finished with greater regret by any person who had a spark of interest in his mind for what is either simply marvellous or instructive, or ever so remotely valuable to human interests. Well may the reader exclaim, with this learned and renowned investigator, ere he has passed the sixth part of his little volume (and most impressive is the question from such a man), "Who is able to foresee what new and unthought-of chemical productions, ministering to the service and comforts of mankind, the next twenty-five years may produce?"

GUY'S HOSPITAL is the only school of medicine in the metropolis which has adopted the recommendation of the council of the College of Surgeons, and given the holidays before the commencement of the session. This is somewhat remarkable, considering that the members of that very council are most of them connected with one or other of the medical schools,—we believe, however, that the *merit* of carrying out the alteration is altogether due to the treasurer, Mr. Harri-

son, for it is not a secret that the medical officers of the hospital was rather hostile to the proceeding, as being one likely to curtail materially their amount of fees.

It is said that Mr. Guthrie intends to elect two assistant-surgeons to his Ophthalmic Hospital—Mr. R. Alcock and Mr. Dasent are reported, indeed, to be already elected.

LECTURES ON MIDWIFERY.

In the notice of the lectures of Dr. J. H. Davis, of 17, Russell-place, Fitzroy-square, in the Students' Number of The Lancet, the days and hours of lecturing were accidentally omitted. We now state, therefore, that they will be commenced on Monday next, Oct. 9th, at three o'clock in the afternoon, and will be continued on the following Wednesdays, Fridays, and Mondays, throughout the winter session, at the same hour. In making this announcement we take the opportunity of specially drawing the attion of students to these lectures, which we have good reason for believing will constitute a very able and complete course on the subjects of midwifery and the diseases of women and children. The metropolis does not afford a more accomplished teacher of his art than Dr. Davis, who for many years assisted his father, Dr. D. D. Davis, the late distinguished professor of midwifery in University College, in the practical department of his duties in that institution. Dr. Davis possesses a good museum of wet and dry preparations, and an extensive collection of drawings and diagrams, together with an apparatus illustrating the various operations of midwifery. Dr. Davis is physician to the Royal Maternity Charity, and his pupils will obtain ample opportunities, at the proper time, of attending cases in midwifery. The fee for the session is £3 3*s*., and the "perpetual" admission, £5 5*s*.

APOTHECARIES' HALL, LONDON.

Names of gentlemen who received certificates of qualification to practise as apothecaries, Thursday, Sept. 28, 1843:—John Colgrave, Banbury, Oxfordshire; Arthur Neville Hawthorne; Charles Girdlestone, Landford, Wilts; Robert Webb, Cambridge.

CORRESPONDENTS.

Dr. W. H. Brown sends us, as a good illustration of the non-medical class who sometimes concern themselves, with a medical air, in their friends' ailments, the following joke, the learned man belonging, he says, to the genus "methodits parson:"—"I have been attending, lately, an old gentleman who was sorely afflicted with eczema, who, of course, wanted to know, every time he saw me, 'what I called it,' and who, when I had spelled it in his ear fifty times, managed to keep it in his mind. One afternoon, after this was accomplished, there opportunely arrived, *at dinner time*, just as it happened to be ready, the Shepherd, who, of course, finding the old gentleman ill, put on his best grief and asked what was the matter, in reply to which the old gentleman spelled what had been spelled to him; at which the Shepherd was so shocked (professionally placing one hand on the stomach and raising the other) that the supper-hour elapsed before he found himself equal to leave. Ordinary folks usually prescribe for their friends' ailments on the spot, but the Shepherd went home first, and next morning, by post, wrote, as the result of a night's deliberation,—'Your disease isn't *eczema*, as the doctor says it is. There isn't any such term; but it's *exanthemata*. You'll soon get rid of it if you trust in Jesus and keep your bowels open.'"

W. A. D., in reply to our correspondent, *M. W.*, says, "The Radcliffe Lunatic Infirmary, or Asylum, is one mile from Oxford. A letter addressed to the resident officer will obtain any information with regard to it."

The "Practical Observations" of Dr. Hunter Lane on the Therapeutic Properties of the Matico and Monesia, are in the hands of the printer, for publication in an early number.

J. S. (City).—The work may be an abstract of Gall's views.

C. C.—We have not the least reason to believe that he would be "allowed by the directors to *hold* the appointment," whether he accepted it or not, if the directors knew the fact.

Weston s. Mare.—Notice of the death should be given to the coroner, who will then exercise his discretion on the point of inquiry. The law requires an inquest to be held where the death was sudden.

The essay of *Dr. Ranking* on Spermatorrhœa, has been received by us for publication, which this week, however, we have not been able to give to it.

ANNOUNCEMENT.

The publication of the Courses of Lectures by Mr. Liston and Dr. Little, the first lectures of which are contained in the present number of The Lancet, will be continued until both courses are concluded, and the lectures of Mr. Liston will be followed by a course delivered by that justly-distinguished surgeon, on all the Operations of Surgery.

The lectures will be, throughout, revised and corrected by the lecturers themselves, expressly for this Journal.